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A.G. Menon	<i>Dravidian Linguistics in the Colonial World</i> . . .	1
B. Ramakrishna Reddy	<i>Number System in Manda</i>	19
K. Nagamma Reddy	<i>Fricatives in Telugu</i>	37
A. Rajan	<i>Archaeological Context of Tamil-Brahmi Script</i> .	57
A. K. Mishra	<i>Phonology of Borrowed Words in Khasi</i>	87
A. Mahanta	<i>Prominence in Oriya, Bangla and Assamese - A Phonetic and Phonological Investigation</i>	101
Mathew Thomas & S. Meenakshisundaram	<i>Multilingual Patterns among Tangsas</i>	129
Ophira Gamliel	<i>Jewish Malayalam</i>	147
Notes & Discussions		
Uttam K. & Vijendra Pandey	<i>Neural Representation of Native and Second Language in Bilingual</i>	177
Abdul Razzaq Sabir	<i>Riddles and Proverbs in Brahui Folk Prose and Poetry</i>	189
Fed Mathew	<i>Baalsantu: A Case of Dialectical Evolution of Folk Dance</i>	195
Reviews		
T. Madhava Menon	<i>Ecology, Technology & Economy - Continuity & Change among the Fisherfolk of Kerala (Mathur, P.R.G.)</i>	207
B. Gopinathan Nair	<i>Research Trends in Lexicography, Sanskrit and Linguistics: Proceedings of Dr. S.M. Katre Birth Centenary Seminar (K.S. Nagaraja et al [Eds.])</i>	215
Index		
Bindu R.B.	<i>Index to the IJDL</i> [Vol. 33 No. 1 (2004) to Vol. 37 No. 2 (2008)]	219

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The journal will be a biannual in English, to be published in the first week of January and June each year.

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The manuscripts of articles should be submitted in *triplicate*, clearly typed on one side only, double space with wide margins, **preferably on floppy or through e-mail** (dravling@md5.vsnl.net.in). Language data should be underlined with meanings in inverted commas. The systems of footnotes and listing of bibliography will be those adopted in *Language*. The article, if theoretically important, will be treated as in *Current Anthropology* and published with comments and replies. Twenty offprints will be issued free of cost to the author(s). Classical papers which are out-of-print will also be republished if there is a demand.

DRAVIDIAN LINGUISTICS IN THE COLONIAL WORLD*

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Introduction

To begin with, let me first thank the Dravidian Linguistics Association for electing me as its President for the academic year 2007-2008. It is a unique honour and a privilege to serve this Association pioneering the cause of linguistics, in general, and that of Dravidian Linguistics, in particular. The first generation of Dravidian Linguists and in particular the driving force behind this dynamic and productive association, like Prof. Dr. V.I. Subramoniam, have shown us the path. They have offered their unconditional support for the growth of this organization, which has now become the only International Association for Dravidian Linguistics with a unique journal *International Journal of Dravidian Linguistics*. When it was born, some sceptics in this field predicted an infant death. It has stood the test of time and proved its worth during the last four decades.

In his prefatory note (22-1-1972) to the first volume of *IJDL* Prof. Subramoniam concluded his introduction with the following words:

arayum ātānuttā sālayum koccu piller

tarayil varaccennāl taccanmār kōpikkumō?

* Presidential address delivered at the 36th AICDL held at Erode, Tamil Nadu from 19 - 21 June 2008.

The master architect will be now proud to see the drawings on the ground transformed into a magnificent building of international beauty and splendour.

We are sincerely thankful to the unselfish works of many scholars and the loyal administrative staff with their talented invisible hands. In the midst of our pride and joy we should not be complacent about its future. It deserves our irrevocable support in the coming years.

Thirty five successful All India Conferences of Dravidian Linguists were conducted since the inauguration of the First Conference in Trivandrum in 1971 under the Presidentship of one of the greatest linguists of India Prof. S.K. Chatterji. It witnessed an uninterrupted flow of Dravidian linguists both from India and abroad. A strong foundation for the future was laid. D.L.A., *DLA News*, I.S.D.L. and the flagship of the entire organisation International Journal of Dravidian Linguistics entering into its part 2 of Volume 37 and the hundreds of qualitatively superior scientific publications in almost all fields of Dravidian and related fields could not have been achieved without the visionary leadership and the unfailing supporting team. It is great, dear friends what our Association has achieved in the last four decades. *IJDL* is an integral part of all the university libraries in India, South Asia, Europe and America.

We are very proud of these academic achievements and we shall contribute whatever we can to continue the unique activities of the D.L.A.

Colonial Linguistics

I shall now return to the subject of my address. I shall address a neglected issue within the field of Dravidian linguistics. Dravidian Linguistics in the Colonial World remains an untouchable subject for many because of the language barrier. For example, knowledge of 17th century Dutch is not easily available for everyone. What is 'Colonial linguistics' and how to define this area of studies, in general, and that of Dravidian Colonial Linguistics, in particular? The words "missionary linguists of India" appeared already in the first presidential address.

Prof. Chatterji refers to the contributions of William Carey and his colleagues at Serampore in West Bengal.

Through the publication of *Linguistics in a Colonial World: A Story of Language, Meaning and Power* Prof. Joseph Errington (2008) has given a new dimension to the discussions regarding the position of the native languages in the countries where the colonial powers were once active. Colonial linguistics deal with the study of these languages by different categories of colonial servants, the official use of them in the company documents, the training of the Europeans in the local languages and how they served the company, the sociolinguistic perception of the company servants and the role of the spoken local language in the official contacts with the natives. The area covered by the colonial linguistics is wide. Every aspect of the local language in the context of the colonial rule is dealt with under this heading. The research of Prof. Errington has provided a framework for the study of the Dravidian languages even though his publications are confined to the South-East Asian languages. Two more publications are also worth mentioning here. The publication of Prof. Catherina A. Fountain (2006) on the *Colonial Linguistics in New Spain*, and the pioneering works of J. Fabian (1986) on *The appropriation of Swahili in the former Belgian Congo 1880-1938* have immensely contributed to a better understanding of this subject.

The Dutch East India Company (Verenigde Oost-Indische Compagnie, hereafter V.O.C.) produced during the two centuries of its activities in South India and Ceylon very valuable written documents. An examination of the linguistic materials in the form of official and unofficial letters, reports of the departing governors, description of the language and culture by the missionaries and, most importantly, the documentation of the flora and fauna of South India have raised a number of questions. The high percentage of spoken Tamil and Malayalam in these writings needs an explanation. The form and language of some of the contracts are very much similar to that of the inscriptions from South India. Some of the questions which we shall try to examine are:

1. What are the reasons for the choice of the spoken language against the formal written language? Unlike the present preference for the

standard formal language in the official documents, the Dutch preferred for the spoken language.

2. Which belonged to the periphery - spoken or formal written? Which was the principal medium of communication with the natives?
3. How dependable are the colonial documents in reconstructing the spoken language of Malabar in the seventeenth century?

History

The last seven decades have witnessed a spectacular growth in the field of Dutch colonial history. The availability of the original documents belonging to the colonial period encouraged many to continue their research. A new facet to this colonial research opened up when the linguistic material in the local languages came out of their dark closed archive shelves. The course of my own research (Menon: 1983, 1996, 1999, 2000 and 2003) was very much determined by the availability of linguistic material in Tamil and Malayalam, belonging to the Dutch colonial period. During the two centuries of their stay in South India and Ceylon from A.D. 1603, the Dutch had very intensive and close contacts with the locals. They had the custom of recording their negotiations and contracts. A copy of each record was sent to Batavia (present Jakarta, Indonesia) and to the various chambers of their Company in the Netherlands. To facilitate a good understanding of the local contexts and situations, all the local words in their spoken forms were transcribed with the help of the Dutch alphabet and spelling conventions. Every governor wrote a detailed report for his successor, and these reports contain a mine of linguistic material. The archives in the Netherlands, Germany, France, United Kingdom, Indonesia, Sri Lanka and India are useful not only for the historians of colonial history, but also for the linguists and the other scientists such as Botanist, Mathematician and Anthropologist. For example, the materials furnished in the *Hortus Malabaricus* are useful for the historians of science as well as the linguistic historians (Heniger 1986 and Menon 1983). The *Ceylon Dutch Plakkaatboek* (the book of Dutch placard announcements) is interesting for the study of the legal system during the Dutch colonial period in Sri Lanka and also for the study of the use of the Tamil language in the same period (Hovy and Streefkerk 1985). Interpreting these archive materials in relation to time, place and the context opens the windows of history (Errington 2008:2). A critical

approach to the background information of the authors like Van Reede and his *Hortus* is essential to justify the historical value of this document. The overstatements and the understatements often colour the information content of a historical document.

Linguistic Zones of Colonial Contact

It was a period when Europeans from far off places reached the shores of India and came in contact with the "natives" and their languages. Often this area of contact is called in the scientific literature as "zones of colonial contact" (Pratt 1992:6 and Errington 2008:2). Louise Pratt defines it as "space(s) of colonial encounter...(as) peoples geographically and historically separated coming to contact with each other and establish ongoing relations, usually involving conditions of coercion, radical inequality, and intractable conflict" (Pratt 1992:6). As successors of the Portuguese in South India, the Dutch had the advantage of employing some of the Portuguese missionaries as intermediaries in their contacts with the locals. The distance between a local language such as Tamil, Malayalam and Telugu and the language of the colonial power, which was the seventeenth century Dutch, was unbridgeable, and the mutual intelligibility was totally absent; however, they were forced to communicate with each other and the westerners were forced to maintain at least a certain level of command of the local colonial language (Errington 2008:2-3). Some of them wrote the local languages in their own European scripts or produced manuals and descriptions of the languages of the natives in their own languages. Their productions included primitive grammars, glossaries explaining the local words in their own language, and descriptions of local societies and their culture. Some of the administrators wrote detailed reports about the military strength of the local rulers. All of them contained valuable linguistic material as they gave more importance for the spoken language. The grammars and glossaries reflect a comparison of their language and culture with that of the locals. They produced their works in the zones of colonial contact.

Two Major Language Policies of the V.O.C.

At the zones of linguistic contact two major developments were noticed. The first development was the introduction or efforts to introduce unity in diversity. The V.O.C. had its jurisdiction over monolingual local areas such as Malabar as well as multilingual large

areas such as Indonesia. For administrative and commercial purposes, it had to take a decision about the use of a language.

The language policy differed from country to country. In the Dutch East Indies they opted for Malay and tried to develop it as a language of the majority and the language of the Company. In India they opted for a two-language formula: Dutch and a local language. Many of the contracts were written in Dutch and in a local language.

Errington (2008: 124) traces an important development in the macro zones of linguistic contact. Instead of imposing a European language on the natives, both Belgium and Holland opted for the development of non-European languages in their areas: Swahili in Congo and Malay in the Dutch East Indies (Errington 2008:16). Both of them are now National languages. Some of the colonial powers even engaged linguists to create new languages for administrative unity in the midst of linguistic diversity. The Europeans as well as the natives started mastering these languages. A similar development crystallized in the 16th century Mexico after the arrival of the Spanish in A.D. 1519. After conquering the Aztecs they gave more importance to Nahuatl than to their own Spanish. Unity can also be achieved through a common script. Early missionaries introduced the Latin alphabet to the Nahuas. The introduction of Latin alphabet in the *Hortus Malabaricus* to transliterate the spoken forms of the Malayalam botanical names was also a similar attempt.

In the case of the bilingual zones of linguistic contact, the hierarchy of languages often reflected in the written documents. Classic examples are the Silver plate documents from Tanjavur (Menon 2000). The record in Dutch was alone valid for all legal purposes and the translation in Tamil was meant for the Nayak of Tanjavur. The Ceylon Plakkaats were written in Dutch and Tamil. Only the Dutch version had the legal status.

The second development was the training of experts for the monolingual local areas of colonial contact. We have seen that the communication with the locals took place in the language of the natives. There were four intermediaries: 1. the local Konkans, Jews and the Chetties, who served as commercial intermediaries, 2. Specialists in Portuguese and the language of the natives, 3. Missionaries and Dutch children born to a native mother, and 4. Efforts to train their own

people in the local language to increase the dependability of the information received. Some of the language specialists were trained at the Leiden University. All of them were engaged at the zones of colonial contact. One of the main pools from where the specialists in the local languages were selected was the children born to a Dutch father and a native woman, the so-called mestizos.

The Company realized the need for training their own academic specialists in the languages of their colonies. However, it is more than evident that the interest in learning a local language was rarely present. However, there were also some visionary governors of the V.O.C., who saw the importance of the local languages such as Tamil and Malayalam. For example, in A.D. 1677 Commander van Reede mentioned that a few Dutch children started learning Malayalam, and in A.D. 1690 he started a Tamil school in Nallur in the north of Ceylon to educate the company servants, their children and the priests in Tamil, and in A.D. 1701 the Dutch Commander Wichelman in his report to the Directors of the V.O.C. emphasized the need for training three or four Dutch children at the company expense in the language of Malabar and in A.D. 1742 the Directors of the Company decided that the Company servants should learn a local language (Menon 1983:243). We could notice a growing pressure from the field commanders to improve the knowledge of the local language and to train more and more Dutch in Malayalam and Tamil. The Company Directors in the Netherlands could not ignore this pressure further. Company invested in human resources. One of the best introductions that the Company could provide for itself was greeting a local king or a businessman in his own language and custom. Doing business in the local language was a dream of some of the Company servants. Once the Dutch realized the advantages of the local language and the appreciation from the local rulers, they started training academics in the field of oriental languages and culture. The resources from where the Dutch could select their future language specialists were, mainly, three: 1. to train a specialist at the university level (example, Herbert de Jager), 2. select a missionary like Phillipus Baldaeus and 3. select a Dutch child born in South India, like Van Meeckeren.

All these specialists contributed to the south Indian languages: De Jager and Baldaeus (Kuiper 1968:16) to Tamil, and Van Meeckeren to Malayalam. Herbert de Jager studied with the financial support of

the Company in Leiden, and specialised in Arabic and Persian in A.D. 1662. He stayed for about ten years (A.D. 1670-1680) in the Coromandel. De Jager was used by the Company to greet the local kings in their own language and custom. One of his favourite subjects was the reproduction of the Tamil sounds with the help of the Dutch alphabet. He introduced his own transcriptional methods to distinguish a retroflex and the difference between short and long vowels. He was also an expert in drawing contracts without double or multi interpretations. De Jager's academic precision was also exhibited during an enquiry he conducted in Tengapattinam in January A.D. 1680 in Tamil. De Jager interrogated one Malla Perumal - a lease-holder and one Wierappa - a Company servant. The Company was full of appreciation of his report which he submitted after the interrogation. De Jager used in this report the Dutch alphabet for reproducing all the local words. The training in Leiden in the oriental languages was his asset, and later became the asset of the Company. Already in the seventeenth century he showed the value of a language specialist to a multinational like the V.O.C. His main contribution was the correct reproduction of the Tamil sounds of the seventeenth century with the help of the Dutch alphabet.

Baldaeus was also in the south at the same time when De Jager was there. The territory of Baldaeus included also Ceylon. He served as a protestant missionary in Tamilnadu and Ceylon. He acquired a good knowledge of spoken Tamil, and in A.D. 1672 wrote a short sketch of the Tamil grammar with notes on the Tamil alphabet and their sound values. The Company records show that the missionaries were also engaged in the trade negotiations because of their knowledge of the local language.

One of the requirements for a successful trade relationship is the knowledge of the local language, especially the spoken language. Initially the negotiations were conducted through Portuguese as intermediary. The experts in Portuguese were the missionaries. Though the Company wanted the missionaries to learn, for example, the Tamil language, most of these priests were old by the time they reached south India. One of the best sources from where the specialists came was the bastard children. For example Rev. de Meij was able to preach in Tamil before A.D. 1690. It is not a wonder because his father was Dutch and his mother was Tamil. He was born in Palayamkottai. In spite of their

long period of stay the Dutch did not impose their language; instead maintained two languages: Dutch and the language of the natives. Their interest in the local language has left behind valuable materials for the study of the spoken language of the West coast of the seventeenth century. The medium through which they communicated with the locals and the language of the written contracts and proclamations are of interest for the study of the spoken languages of Malabar.

During the 17th, 18th and 19th centuries many of the pioneers in the languages of the natives were the missionaries. In spite of the internal and external problems, most of the missionaries invested a major share of their initial stay for learning a local language. Tamil is the only Indian language with many missionary grammars based on the written and spoken forms. Ziegenbalg, Fabricius, Rhenius and Graul are some of those important missionaries. In most of the cases there was a smooth cooperation between the V.O.C. and the missionaries; however, there are also cases of distrust and the Companies hampered their activities. A fitting example is the plight of the German missionaries sent by the Danish king to Tranquebar and their conflicts with the Danish East India Company (Mohanavelu 1993:12-13).

The missionaries had a deep awareness of the local knowledge. Like the three grades of politeness in the Javanese language the missionaries did not fail to recognize the difference between the inclusive and exclusive first person pronouns in Tamil. A wrong translation of "we" would lead to a fatal mistake and will include the Lord also in the group of sinners in the expressions such as "We the sinners..".

The best language specialist the Company ever trained is Cornelis van Meeckeren. He wrote the *olas* (letters on palm-leaf) in Malayalam. He started as a clerk in Ponnani and ended as the chief Malayalam specialist of the V.O.C. Van Meeckeren was the son of a Dutch father and a Malayali mother. In the 18th century he rendered the V.O.C. the best linguistic services.

Examples for the Two-Language Policy

Two of the telling examples of this policy are the famous silver plate inscriptions of the seventeenth century belonging to two Nayaks of Tanjore and granting all the rights, except one, to the Dutch over ten

villages in the Tanjore district. A close scrutiny of the Dutch and Tamil versions of these contracts shows that for all legal purposes only the Dutch version was the basis, and above that the Tamil version itself is incomplete. I wonder whether there was any one in the court of the Nayak able to read the Dutch version. These inscriptions were written in Dutch and colloquial Tamil. The records in the Malayalam language are also highly tinted with the spoken language. The reports of the departing Dutch governors written for their head office and their successors contain only the spoken forms transliterated in their own alphabet. Another example is the bilingual Ceylon plakkaat (official announcements of the V.O.C.).

Language for Administration

Ruling or managing a majority by a minority cannot succeed without the intermediaries. Natives were trained to support the Company servants after a good education in the administration and in the language of the Europeans. For example, the Belgian ministry of Colonies wanted to train "black clerks and craftsmen" to replace "lower-echelon white personnel who were very expensive and produced mediocre results" (Fabian 1986:50, Errington 2008: 124). Outsourcing started very early in the history of colonial linguistics. Desire to replace the old and less productive Malayalam language specialists with the locals or bastard children of the Company servants appeared in the confidential reports of the V.O.C. sent to their superiors in the Netherlands ('sJacob 1976:LIV).

Spoken Language above the Written Language

The V.O.C. as well as the missionary linguists emphasise in their records the distinction between the spoken and written forms of a language. Classic examples are the contracts signed by the company and the local rulers or merchants and the grammars produced by the missionaries. Pope (Pope 1883) and Gundert (Gundert 1868, 1872) recognised the spoken dialects and their relationship to the written language. We are not dealing here with the contributions of such western missionary scholars; but with less known linguistic records of the V.O.C. The company contracts show much resemblance to the language of our inscriptions. The missionaries and the servants of the East India Company were dealing with one of the most important aspects of human life in the exotic orient, i.e. the medium of

communication with the natives. They brought down their speech to text and wherever possible the reverse too. The spoken words got a readable form with the help of their Latin alphabet.

Below are given a few examples for the spoken language: The abbreviations Rom. and Mal. stand for Roman and Malayalam, respectively.

Hortus

I.33 Rom. *chovanna* for Mal. *cuvanna*

IX.1 Rom. *tsjovanna* for Mal. *cuvanna*

X.84 Rom. *tolassi* for Mal. *tulassi*

XI.37 Rom. *besam* for Mal. *viṣam*

XI.65 Rom. *sendera* for Mal. *cantra*

Glossarium

Rom. *barietta poela* (p. 18) for Mal. *variyaṭṭe piḷḷa*

Rom. *poram* (p. 21) for Mal. *puram*

Rom. *malaporottoe* (p. 37) for Mal. *malappurattu*

Grammar Cellarius

p. 334 Rom. *Cojeweer* Mal. *kusavar*

Spoken language dominated the Dutch documents. Whether it was a letter written to a king, or a contract with a local trader or even the names of flora and fauna, almost all of them were written in the spoken language. The important motive behind this Dutch transcription was that it made easier for the Company directors in the Netherlands to hear what they read. The spoken forms were written with the Dutch alphabets so that they know how to pronounce them. Baldaeus expressed his (A.D. 1672) high appreciation for the spoken Tamil - its structure, semantic richness, rich vocabulary, use of respect forms, the civilized language use etc. The Dutch understood the importance of the informal speech. As a result of this realization, they have left behind very valuable linguistic material. Both Tamil and Malayalam preserve

this unique linguistic material about the spoken language of Tamilnadu and Kerala during the 17th and 18th centuries.

Linguistic Products of the V.O.C.

1. Hortus

One of the Dutch commanders who showed much interest in Malayalam and the culture of Kerala is Hendrik Adriaan van Reede tot Drakesteen who became the first commander of Cochin in A.D. 1670. Because of his long contact with Malabar and because of his ascendance from soldier to commander, he got the best opportunity to know the country and its culture. In the midst of an internal conflict between him and his superior Van Goens who had his residence in Ceylon, Van Reede decided to highlight the cultural and linguistic wealth of Malabar. The encyclopaedic *Hortus Malabaricus* is the result of his enthusiasm for Malabar and its people and above all the value of the flora and fauna of Malabar in relation to their medicinal value. While collecting the information about the plants he faced a number of difficulties in spite of the help of two important missionaries Brother Mattheus and Father Johannes Casearius of Cochin. Van Reede made an important decision and this decision is crucial for the colonial linguistics. He commissioned a big group of native physicians, Brahmins and others to collect the names of well-known plants in their own languages. In other words he sent a big group on linguistic fieldwork. Van Reede had another group of sixteen experts who provided him the names of plants in their own dialects. It is important to note that these experts were drawn from different parts of Malabar. The twelve volumes of the *Hortus Malabaricus* published between A.D. 1678 and 1703 describing the botanical and medicinal value of about 745 plants form unique resources for the reconstruction of the 17th century spoken language of Kerala. The spoken forms of the plant names are given in Latin transcription. The *Hortus* takes us into the unique world of the Malayalam scripts of the 17th century reflecting the relationship between caste and script (Menon 1983:244).

2. Two contracts between the Nayak of Tanjore and the Dutch. A.D. 1658 and A.D. 1676

Important for the study of the spoken language of the east coast of South India is a contract signed by the Nayak Ekoji of Tanjore and

the Dutch in A.D. 1676. This inscription on a silver plate is very much similar to the Leyden Copper Plates of the great Chola king Raja Raja and his son Rajendra of the 10th and 11th centuries. Instead of a Chola king donating a village to a Buddhist monastery in Nagapattinam, a Maratta prince was forced to "donate" the rights of trade to the V.O.C. Both of them are bilingual: Sanskrit - Tamil and Dutch - Tamil. Like the Sanskrit words written in the *grantha* letters, the Dutch words are written in the *grantha* letters. The Dutch governor was praised like a Tamil king. Another important feature is the protection of the *devadana*, *brahmadeya*, *manya* and *madappuram* land in the Dutch-Tamil inscription. The Tamil inscription is written in the colloquial style. The terms of agreement were reached after a long negotiation between the Nayak and the Dutch. On the one side of the negotiating table were sitting Ekoji, his agent and a general and the other side was occupied by the Dutch negotiators consisting of two captains and some members of the council of Nagapattinam. The negotiation should have taken place in colloquial Tamil and Dutch because these are the two languages of the text of the agreement. To do business in a strange country the knowledge of the spoken language of that country is essential.

3. The *Malabar Glossary* is an important source for the knowledge about the language and culture of Malabar. It was prepared by a departing governor (*commandeur*) for the benefit of his successor. Governor Stein van Gollenesse was the departing governor and it was prepared by Cornelis van Meeckeren in A.D. 1743, who was the son of a Dutch father and a Malayali mother. Though it has the title glossary, it contains encyclopaedic information about Kerala. Van Ronkel (1942) published the glossary for the first time (Kuiper 1968). An English translation of this important document is already completed and will be published soon. Spoken language of Kerala plays an important role in the *Malabar Glossary*.

4. The reports and letters (s'Jacob 1976) sent by the Dutch governors in India to the directors of the V.O.C. in the Netherlands are important sources for information regarding the spoken language of Kerala and Tamil Nadu. All the native words were transcribed with the help of the Dutch spellings. Though the language of this source is Dutch, all the oriental words were transcribed in their spoken form.

5. Johan Adam Cellarius wrote in A.D. 1781 a short sketch of the Malayalam alphabet, numerals and a Malayalam translation of a Latin

text. His sketches include further many details about the culture and religion of Malabar. It is not a complete grammar of the Malayalam grammar.

6. Philippus Baldeaus, a Dutch protestant missionary, who worked in Galle, Ceylon between 1656-57, wrote a short Tamil grammar in A.D. 1672. One important aspect of this sketch is its description of the phonetic value of the Tamil alphabet. Information about the noun and verb is extremely scarce.

Verb Classification then and now

All the missionary linguists such as Arden, Beythan, and Graul tried to tame a wild and beautiful linguistic lion from the south: the classification of Tamil verbs. It still remains a challenging subject. It is our aim to classify all the verbs in such a way that this classification would automatically take care of all the derivations of these verbs: from tense markers to person gender markers and from transitives to all classes of non-finite verbs and verbal nouns. The modern computer-assisted language processing has produced modules for automatic generation and synthesis of Tamil Nouns with all their declinations and the Tamil Verb with all their derivations. In the future we may not need grammars to learn a new language. The machines with their gigantic corpus are doing now this job. The missionary classification of Tamil verbs into strong, weak and middle is no longer valid (Menon 1976, 1998).

Confronting Linguistic Zones

The Dutch, as successors of the Portuguese, had to face two zones of linguistic contact: one with their predecessors and the other with the indigenous people of the area. In the former they had to fight against the use of the Portuguese and in the latter they had to communicate with the natives.

Seventeenth century witnessed a fierce language struggle in the south of India among the European countries which had established commercial contacts with Malabar. The governors of the V.O.C. issued orders for the abolition of the Portuguese language and the establishment and maintenance of their own Dutch in Malabar. In Ceylon they wanted their own Dutch to prevail because of their

intention to shift their commercial capitol from Batavia, present Jakarta, to Colombo. Since the Dutch children were looked after by the Portuguese speaking slaves, the Dutch governor even ordered that the hair of the slaves who did not master the Dutch language should be cut short and that they should not wear caps to hide it until they master the Dutch language (Groeneboer 1992:59). The Company offered financial support to its Portuguese servants to learn Dutch. They sent their own children and the children born to a Dutch father and a local woman to the Dutch schools to avoid any contact with the Portuguese language. Struggle against Portuguese was also a struggle against the Catholics because most of the Dutch were Protestants. It was a rare combination of a linguistic protest against a religion. However, the Company did not insist that all the locals should also learn Dutch.

Conclusion

The Dutch spent about two centuries on the east and west coast of South India. During their stay they realized the importance of the spoken language of Tamil Nadu and Kerala. They trained their own specialists from academics to bastard children. Our spoken languages flourished in their hands and they left behind for us a unique collection of Tamil and Malayalam linguistic material. A Glossary prepared in A.D. 1743 introduces the new company servants to an elaborate reservoir of the spoken language of Kerala. There was confusion about the language of Kerala and Tamil Nadu. *Mallabaars* was the generic name for Tamil and Malayalam. Cellarius in his notes on the speech of Malabar pointed out that there were two main dialects: *Tamulsche* and *Mallabaarse*. *Mallabaars* was further divided into *Grandonisch*, *Samscrudonisch* and the ordinary *Mallabaars*. It was this ordinary spoken language of Malabar which served the interests of the V.O.C. because this is the dialect which functioned as the medium of communication. For a good commercial relationship they decided to train their servants in the spoken language of Malabar.

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NUMBER SYSTEM IN MANDA: INTERPLAY OF PHONOLOGY, MORPHOSYNTAX AND SEMANTICS

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1. Introduction

Manda [manda] is a member of the South-Central Dravidian group spoken by a section of the Kondh (Khond/Kondh/Kondo) tribe inhabiting the highlands of Thuamul Rampur, Kalahandi district, Orissa. It was discovered by Burrow and Bhattacharya (1970:VI) during their fieldwork on Pengo in 1965-66. Culturally the Kondh Parjas form a single homogenous tribe but they speak five different languages, namely Kui, Kuvi, Pengo, Manda and Indi-Awe. Except Kui, the speakers of the rest have innovated indigenous naming pattern for their languages deriving the ethnonymy from the negative conjugation of third person neuter singular of the copulative-predicative verb \bar{a} 'to be'. Thus among the tribes Kuvi is alternatively known as $\bar{a}?e$. 'no, not' Pengo as *awut* Manda as, $\bar{a}wu$ and Indi as $\bar{a}we$. This is an instance of a large ethnic tribe distinguishing its sub-identity on the basis of a linguistic feature.

The records of the Government of India (such as the Census) do not mention Manda as a separate language as the speakers are enumerated under the generic label of Kondhs. Based on our intensive field trips, it is estimated that the native speakers of Manda may number around 5000 to 6000. They live in about 60 villages under the Thuamul Rampur Block, a part of the highlands of Kalahandi bordering with Rayagada of southern Orissa. Thuamul Rampur is located about 80 kilometres south of Bhawanipatna, the district headquarters of Kalahandi. Our principal informant Mr. Sanatan Majhi hails from Katkura village, which is 5 kilometres away further south of Thuamul Rampur. The main sources of the following analysis and

description of number system in Manda are my own field notes and research articles both published and unpublished.

2. The concept of number

Number in human languages is concerned with enumeration or numerosity. It is a grammatical category of noun or noun phrase and in many natural languages it is marked as an inflectional category of noun or on noun modifiers and noun-controlled constituents such as agreement. The notion of countability as reflected in grammatical structure may indicate the number system of a particular language. Most of the languages of the world denote a two-way distinction of number in terms of singular versus plural. Here the underlying notion is based on the dichotomy of one versus more than one. "This distinction clearly rests upon the recognition of persons, animals and objects which can be enumerated ... and referred to, individually or collectively, by means of nouns" (Lyons 1968: 281). The lexical and grammatical structures of individual languages determine the encapsulation of this fundamental notion and its appropriate use.

Dravidian languages have a uniform two-way distinction of number in terms of singular versus plural irrespective of the underlying meaning postulates. Manda is a typical Dravidian representative in this regard. Moreover, it has developed certain unique traits of number morphology and number syntax emerging from phonology on the one hand, and from pragmatics-based semantics on the other. The interaction of number with person (first, second and third) and gender (masculine and feminine) is transparently encoded in the inflectional morphology of Manda. In this respect pronouns are the best guide to indicate the underlying semantic features of nominals, as they (pronouns) encapsulate in their lexical structure the features of person, number and gender of entities under reference. In Manda, as is the case with Dravidian in general, number combines only with person in the participant pronouns (I P & II P) whereas it combines with person as well as gender in the non-participant (so-called III P) pronouns. Thus there is a fusion of features, rather than agglutination, in the language.

In the following pages a brief outline of the systems of number expressions in Manda will be analysed and described. The morphology of plural formation in nouns, pronouns and adjectives will be taken up separately, followed by syntax of number marking, verbal number,

number as an interface across linguistic levels (from phonology to semantics).

3. Nominal number

Nouns are basically referring expressions concerned with persons, animals, plants, objects etc. They refer both to the countables as well as non-countables. It is in the realm of countable that we come across an interesting variety of number marking expressions in Manda, wherein from phonology to pragmatics all levels of language analysis have their due share. As an initial premise, nouns in Manda are classified into human versus non-human. Secondly different morphological processes operate on these two groups of nouns. As in general Dravidian, Manda treats all the nouns referring to non-human entities (including animates) under only one category, namely that of the neuter. The grammatical category of gender plays a crucial role in number marking in that the dichotomous division of masculine versus feminine (gender) is invoked only with regard to human nouns.

3.1 Phonological criterion: Syllable-based plural form

Manda, like other Kondh languages (Pengo, Kui, Kuvi and Indi-Awe), employs the criterion of syllable pattern of (non-human) nouns for marking the plurality. For this purpose, the phonological structure of nouns is interpreted in terms of the number of syllables contained in a particular noun. The nouns are classified into a bipolar system of monosyllabic versus non-monosyllabic (i.e., \pm monosyllabic), which latter is variously known as polysyllabic or multisyllabic. All noun roots consisting of monosyllables (irrespective of the fact whether a noun ends with a vowel or a consonant) having the canonical form of (C) (C) V (C) (C), take the suffix *-ke* to indicate plurality, observe the following examples:

(1)	Gloss	Singular	Plural
	'Arrow'	<i>am</i>	<i>am-ke</i>
	'Eye'	<i>kan</i>	<i>kan-ke</i>
	'Stone'	<i>kal</i>	<i>kal-ke</i>
	'Fowl'	<i>kuy</i>	<i>kuy-ke</i>
	'Pit'	<i>krāy</i>	<i>krāy-ke</i>

'Mushroom'	<i>gūnd</i>	<i>gūt-ke</i>
'Hand'	<i>kī</i>	<i>kī-ke</i>
'Oil'	<i>nī</i>	<i>nī-ke</i>

When we turn to (non-monosyllabic) nouns with polysyllables, there are two allomorphs of plural morpheme, namely *-η* and *-iη* whose distribution is controlled by the phonological structure of the final phoneme with which a nominal root ends. In distributional terms, *-η* occurs after the noun-roots ending in a vowel, and *-iη* is suffixed to those that end with a consonant (irrespective of referential semantics of the noun). A look at the following examples will reveal the phenomenon:

-η occurs after nominal roots that end with a vowel

(2)	Gloss	Singular	Plural
	'Property'	<i>arne</i>	<i>arne-η</i>
	'Leaf'	<i>āki</i>	<i>āki-η</i>
	'Wetland'	<i>aṭla</i>	<i>aṭla-η</i>
	'Anklet'	<i>āndu</i>	<i>āndu-η</i>
	'Subscription'	<i>ūra</i>	<i>ūra-η</i>
	'Song'	<i>peṇme</i>	<i>peṇme-η</i>
	'Foundation'	<i>varkuṇa</i>	<i>varkuṇa-η</i>

-iη is suffixed to noun roots ending in a consonant

(3)	Gloss	Singular	Plural
	'Cot'	<i>kāṭēl</i>	<i>kāṭēl-iη</i>
	'Tortoise'	<i>kasim</i>	<i>kasim-iη</i>
	'Twig'	<i>halen</i>	<i>halen-iη</i>
	'Famine'	<i>katār</i>	<i>katār-iη</i>
	'Saw'	<i>kurūt</i>	<i>kurūt-iη</i>
	'Body'	<i>gāgar</i>	<i>gāgar-iη</i>
	'Day'	<i>nānj</i>	<i>nānj-iη</i>

On the basis of the above facts of Manda, we may observe that there are three allomorphs indicating plurality on the nouns, namely *-ke* and *-ŋ/-iŋ*. Their occurrence is phonologically conditioned in that *-ke* occurs after the monosyllabic nouns, and the latter two occur after polysyllabic nouns; further the shape of the final phoneme decides which of them should appear in a given context i.e., *-ŋ* after vowels and *-iŋ* after consonants, which again contributes to word final cluster simplification. Secondly the singular number is unmarked in all the above examples.

3.2 Semantic criterion: Kinship and professional terms

The human nouns referring to kinship and occupation (professions) indicate the plural forms in a' unique fashion in Manda. At the outset the nouns of these two classes are classified into male and female and subsequently the gender distinction of masculine and feminine. Secondly these are marked distinctly in plural number, (and sometimes the singular is also marked) in the following fashion (cf. 8 and 9 below):

- (4)
- Kin relations

Male - singular versus plural

Female - singular versus plural

Profession terms

Male - singular versus plural

Female - singular versus plural

There are exclusive morphs in Manda to indicate the above distinctions (though with some gaps) as can be gathered from the following materials.

3.2.1 Kin-terms referring to human males

(5)	Gloss	Singular	Plural
	‘Grandfather’	<i>aku</i>	<i>aku-r</i>
	‘His son’	<i>tāmji</i>	<i>tāmji-r</i>
	‘Mother’s elder sister’s husband’	<i>pemba</i>	<i>pemba-r</i>
	‘Father’s younger brother’	<i>bābu</i>	<i>bābu-r</i>
	‘Brother-in-law’	<i>jāvay</i>	<i>jāvay-ar</i>
	‘Younger brother-in-law’	<i>pūdan</i>	<i>pūda-r</i>
	‘Father’	<i>aba</i>	<i>aba-r</i>

Note that *-(a)r* is the plural marker with the above group of male kinship nouns.

3.2.2 Kin-terms referring to human females

(6)	Gloss	Singular	Plural
	'Mother'	<i>aya</i>	<i>aya-hiṇ</i>
	'Younger sister'	<i>ēmi</i>	<i>ēmi-hiṇ</i>
	'Wife'	<i>vāṇi</i>	<i>vāṇi-hiṇ</i>
	'Spouse's sister'	<i>hāsu</i>	<i>hāsu-hiṇ</i>
	'Daughter'	<i>gār</i>	<i>gār-hiṇ</i>
	'Young woman'	<i>jīpār</i>	<i>jīpā-hiṇ</i>
	'Mother-in-law'	<i>pūdār</i>	<i>pūdā-hiṇ</i>

Here the plural marker is *-hiṇ*. The singular is not marked except on the last two examples wherein *-ār* may be conceived as a singular marker. (This form looks like a cognate of *-āl* 'person or a woman' in Tamil and *-āḍa* 'female' in Telugu).

3.2.3 Occupation/professional (caste) nouns referring to human males

(7)	Gloss	Singular	Plural
	'Man'	<i>aṇḍr-en</i>	<i>aṇḍr-aṇ</i>
	'Potter'	<i>kumr-en</i>	<i>kumr-aṇ</i>
	'Tribal man'	<i>parj-én</i>	<i>parj-aṇ</i>
	'Manda man'	<i>maṇḍ-en</i>	<i>maṇḍ-aṇ</i>
	'Domb man'	<i>ḍum-en</i>	<i>ḍum-aṇ</i>
	'Washer man'	<i>dūb-en</i>	<i>dūb-aṇ</i>

In the above set, the plural is marked by the suffix *-aṇ* while the singular is indicated by *-en*, which latter is rare unique trait of Manda. However, this process may be compared with *avan* 'he' *avange* 'they' of Tamil; and *vāḍu* 'he' and *va:ḷḷu* 'they (hum)' of Telugu which can be suffixed to most of the occupational terms.

3.2.4 Occupational terms referring to human females

(8)	Gloss	Singular	Plural
	'Potter woman'	<i>kumar-ār̥</i>	<i>kumr-āske</i>
	'Parja woman'	<i>parj-ār̥</i>	<i>parj-āske</i>
	'Manda woman'	<i>mand-ār̥</i>	<i>mand-āske</i>
	'Domb woman'	<i>ḍum-ār̥</i>	<i>ḍum-āske</i>
	'Washer woman'	<i>dūb-ār̥</i>	<i>dūb-āske</i>

In these sets, both the singular and plural numbers are marked by *-ār̥* and *-āske* respectively. Alternatively the plural morph *-āske* itself can be further divided as consisting of the singular *-ār̥* 'woman' followed by the plural suffix *-ke* (which was noticed above with monosyllabic words) i.e., $\bar{a}r̥ + -ke > \bar{a}ske$ 'women'. It may be pointed out that the final retroflex has undergone regressive voice assimilation to give rise to the plural form.

Number marking on the Manda nouns employs both the phonological and the pragmatico-semantic criteria. As an initial hypothesis nouns are classified into (\pm Human). From the phonological perspective, the syllable structure of nonhuman (neuter) nouns is divided into monosyllabic versus polysyllabic. The plurality of monosyllabic nouns is marked by the suffix *-ke*, and the polysyllabic nouns by *-ŋ* or *-iŋ* wherein the former occurs after the nouns ending with a vowel and the latter is suffixed to those words ending in a consonant. Thus these three items show a phonologically conditioned allomorphic distribution, wherein a battery of syllable-based grammatical (or morphological) rules is triggered into action.

The human nouns, on the other hand, adapt a pragmatico-semantic criterion to designate plurality. The category of gender, in terms of masculine versus feminine, is invoked and each of these (male-female) is further dichotomised into kinship and occupational terms, by the suffixes *-r*, *-hiŋ*, *-aŋ* and *-āske*, as shown in the table next page.

3.3 Number in pronouns, demonstratives, interrogatives and numerals

In case the speaker is referring just to himself alone the first person singular 'I' will emerge which is a universal category. If there is

(9) Plural markers on nouns

Noun					
Human			Non-Human		
	Masc.	Fem.	Mono-syllabic	Polysyllabic	
Kinship	-r	-hiŋ	-ke	Vowel ending	Consonant ending
Occupation	-aŋ	-āske		-ŋ	-iŋ

inclusion of addressee(s) and optionally one or more referents together with the speaker, it results in the first person plural inclusive ‘we’ as found in Telugu, Kuvi, Manda and many other languages. The combination of speaker with one or more than one referent leaving out the hearer will give rise to the first person plural exclusive ‘we’ as in Telugu, Manda, Kui, Kuvi, Indi-Awe and a host of other languages. The crucial point here is the inclusion or exclusion of the addressee with the speaker; and whether only these two are involved or is there reference to more than one hearer or referent. Within the personal pronouns there is a universal hierarchy in terms of the output of their conjunction in terms of first person > second person > third person. In contextual semantic terms, the hierarchy can be restated as speaker > listener > referent, irrespective of the number of other persons or entities involved. In grammatical terms we shall confine our discussion to the personal pronouns (I, II, and III) and demonstratives, which emerge on the basis of locational information (from the speaker’s viewpoint) combined with descriptive information.

The first and second personal pronouns in Manda indicate the number distinction of singular and plural as in *āne* ‘I’, *āme* ‘we’, *īne* ‘you (sing)’, and *īme* ‘you (plural).’ However, the concept of clusivity with first person plural in terms of inclusive and exclusive is marked syntactically on the verb morphology by the subject agreement features as illustrated further below (cf.14).

Number in the Manda demonstratives appears in combination with the semantic feature of gender together with the deictic feature of locational information, as shown in the following table of componential description:

(10)

	Locational information		Semantic information					
			+ Human				-Human	
			Masculine		Feminine		Neuter	
			Sg.	Pl.	Sg.	Pl.	Sg.	Pl.
+ Proximate			<i>ivan</i>	<i>ivar</i>	<i>idel</i>	<i>ivahiṇ</i>	<i>idi</i>	<i>ive</i>
[- proximate + visible]			<i>uvan</i>	<i>uvar</i>	<i>udel</i>	<i>uvahiṇ</i>	<i>ūdi</i>	<i>ūvi</i>
[-proximate -visible]			<i>ēvan</i>	<i>ēvar</i>	<i>ēdel</i>	<i>ēvahiṇ</i>	<i>ēdi</i>	<i>ēvi</i>

It is a well-known fact that there are no separate third person pronouns in Dravidian, of which Manda is of no exception. The demonstratives perform the function of the so-called third person pronouns. However, the anaphoric singular and plural pronouns *tān* ‘he, she, it’ and *tām* ‘they (men, women or objects)’ are frequently noticed in the language. Their referential function is textual, rather than deictic. Sometimes these are treated as third person pronouns.

The distinction of number is transparently denoted by the Manda interrogative pronouns as well. For example, there are four different pronouns standing as equivalent to the English *who* and two for ‘*which*’. The distinction of Human vs Non-Human coupled with gender plays a crucial role in the lexicalization of the interrogatives, and also the numerals one and two, as can be seen from the following table:

(11)

Semantic information		Human		Non-Human
Gender		Masculine	Feminine	Neuter
Number				
Singular		<i>inan</i>	<i>indel</i>	<i>inaṇḍi</i>
Plural		<i>inar</i>	<i>inahiṇ</i>	<i>inane</i>
Numerals				
One		<i>rukan</i>	<i>ruṇḍel</i>	<i>ruṇḍi</i>
Two		<i>rikar</i>	<i>rikahiṇ</i>	<i>riṇḍi</i>

Manda retains the Dravidian numerals only for one and two. From three onwards the numerals are borrowed from the Indo-Aryan

local Oriya. However, the combination of number with countables in higher numerals is expressed in accordance with a three-way classifier system, as exemplified hereunder:

(12)

Noun			
+ Count			- Count
+ Animate		- Animate	
+ Human <i>jaṇ</i>	- Human <i>muṇḍ</i>	<i>goṭe</i>	Ø

The noun phrase consists of the numeral followed by the relevant classifier-marker (as a suffix) before the head noun. Observe the following examples:

Noun Phrase → Numeral + Classifier + Noun

- (13)
- | | | | |
|-----|--------------------------------|-----------------------|--------------|
| (1) | <i>sāri-jaṇ</i>
four class | <i>kaḍḍer</i>
boys | 'Four boys' |
| (2) | <i>sāri-muṇḍ</i>
four class | <i>uḍeṇ</i>
goats | 'Four goats' |
| (3) | <i>sāri-goṭe</i>
four class | <i>marke</i>
trees | 'Four trees' |

4. Syntax of number

As stated above, pronoun system in Manda forms the basis for the subject-predicate agreement patterns in the language. A division into participant and non-participant (i.e. demonstrative) pronouns is an essential factor. When the participant pronouns occur in the subject position only the person and number categories are marked on the predicate, whereas with the non-participant pronouns in the subject position, all the three features of person, number and gender (PNG) are manifested in the predicate morphology. Observe the following paradigm with the verb *kēr* 'to sing':

- (14)
- | | |
|-------------------------------------|----------|
| <i>āne kēr-t-u</i>
I sing past I | 'I sang' |
|-------------------------------------|----------|

āme kēr-t-un 'We (excl) sang'
we we (excl)

āme kēr-t-uhu 'We (incl) sang'
we we (incl)

īne kēr-t-i 'You(sg) sang'
you (sg) you(sg)

īme kēr-t-ir 'You (pl) sang'
you (pl) you (pl)

evan kēr-t-un 'He sang'
he he

evan kēr-t-ir 'They (men) sang'
they (men) they

edel/edi kēr-t-i 'She/it sang'
she it she/it

evahin/eve kēr-t-in 'They (women/non-human) sang'
they they they
(women) (neut)

Notice that the clusivity distinction of inclusive and exclusive in the first person plural is marked only on the subject agreement morphology, but not in the pronoun system, i.e. the distinction is not lexicalized, but merely morphologized. Another noteworthy neutralization is in the agreement markers for third person wherein a division of masculine versus the rest (i.e. feminine plus neuter) is manifested in the agreement morphology, whereas a distinction between feminine and neuter is maintained only at the lexical level. For the purpose of further comparison, the pronominal endings (as agreement markers) are listed on the next page as they appear on a verbal predicate.

4.1 Number agreement of conjoined subject NPs

Predicate agreement with a subject of conjoined nouns consisting of male human and female human or male human and neuter nouns shows the non-masculine plural marker *-in* in its verb morphology. In a combination of male human and non-male human (or

(15) Person	Singular	Plural
I	-u	-uη (excl.) -uhu (incl.)
II	-i	-ir
III Hum. Masc.	-un	-ir
III $\left[\begin{array}{c} \text{-Hum.} \\ \text{-Masc.} \end{array} \right]$	-i	-iη

non-human) it is the latter that controls the agreement irrespective of order of the elements.

- (16) *burka, kulya ār ēnpatinbanan-tīn jaṇa, kuvi-ta ha-s-iṇ*
 tiger fox and beggar (man) three people well to go past they
 (non-masc.)

‘The tiger, the fox and the beggar - all three went to the well’.

Here in (16) the combination of man and animals giving rise to human classifier *jaṇ* does not control the output agreement of non-masculine neuter plural. When the conjoined subject NPs consist of an exclusive III P pronouns referring to a combination of male and female (i.e. man and woman), in most of the languages the pronominal ending standing for human, (male + plural) also stands for the conjunction of more than one woman. In other words, within the gender system the male is more prevalent than the female e.g. in Tamil, Gondi, Kuvi, Kurux and others. But Manda stands as an exception to this general trend in that a combination of men and women in its output opts for the verbal ending of the female or non-masculine plural.

The prevailing hierarchy of Manda is reflected even in a situation of anaphora, which of course is a type of inter-sentential agreement.

- (17) *ru nāṭa buṛa buḍya ma-s-iṇ. evahiṇ-ka hīmṇaṇ lāva-t-iṇ*
 one village-in old man old woman live past they they (non-male) to
 (non-masc.)
 children be not past they
 (non-masc.)

‘There lived an old man and old woman in a village. They had no children’.

The subject agreement in both the clauses (of 17) opts for the features of (III P, non-masculine, plural) though the combined subject NPs contain both masculine and feminine reference. The feature non-masculine dominates the masculine in a conjoined context. Even the word for the subject 'children' in the second clause is treated in this fashion as marked by the pronominal element of the finite verb. In other words, contrary to the feature dominance of masculine over the feminine (and neuter), it is the feminine (or neuter) that controls the gender hierarchy of agreement in Manda.

4.2 Number in non-verbal predicates

Let us turn our attention to the facts of structure wherein the non-verb categories occur in the predicate. We shall particularly discuss the meaning and structure of predicative adjectives (or adjectival predicates), predicative nominals (or nominal predicates) and predicative adverbials (or adverbial predicates) from the perspective of number agreement. These types of constructions are sometimes labelled as verbless sentences basing on their structure in the non-past affirmative type. However, they are not verbless throughout their derivation as they do show an equative-predicative verb *ā* 'to be' in such construction types as negatives, relative clauses, conditionals and 'either-or' type of sentences (cf. Ramakrishna Reddy 1986).

When adjectives occur as predicates, they are inflected for subject agreement by marking the pronominal endings indicating person, number and gender as in the following paradigm of the adjective *gaj* 'big, great':

(18)	<i>āne gaj-ata</i>	'I am great'
	<i>āme gaj-atan</i>	'We (excl) are great'
	<i>āme gaj-ataha</i>	'We (incl) are great'
	<i>īne gaj-ati</i>	'You (sg) are great'
	<i>īme gaj-ater</i>	'You (pl) are great'
	<i>evan gaj-an</i>	'He is great'
	<i>evar gaj-ar</i>	'They (men) are great'
	<i>edel gaj-del</i>	'She is great'

<i>evahiṇ gaj-ahiṇ</i>	‘They (women) are great’
<i>ēd gaj-adi</i>	‘It is great’
<i>ēv gaj-ane</i>	‘They (non-human) are great’

Similar inflectional pattern is noticed with predicative nominals (or nominal predicates). Observe the following inflectional paradigm:

(19)	<i>āne mī mama-ta</i>	‘I am your uncle’
	<i>āme tā māma-taṇ</i>	‘We (excl) are his uncles’
	<i>āme tā māma-taha</i>	‘We (incl) are his uncles’
	<i>īn ran mel-ti</i>	‘You (sg) are a wild peacock’
	<i>īme sari jaṇ-ater</i>	‘You are four people’
	<i>evan pāṭi-n-an</i>	‘He is a townsman’
	<i>evan pāṭi-n-ar</i>	‘They are townsmen’
	<i>edel pāṭi-n-del</i>	‘She is a townswoman’
	<i>evahiṇ pāṭi-n-ahiṇ</i>	‘They are townswomen’
	<i>ēd pāṭi-n-di</i>	‘It is a townie’
	<i>ēv pāṭi-n-ne(v)</i>	‘They (non-human) are townies’

Predicative adverbials show similar subject agreement pattern, as illustrated below with the spatial adverb *ēba* ‘there’:

(20)		Singular	Plural
	IP	<i>ēba-n-ata</i>	<i>ēba-n-ataṇ</i> (excl) <i>ēba-n-ataha</i> (incl)
	IIP	<i>ēba-n-ati</i>	<i>ēba-n-ater</i>
	IIIP	<div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 10px;">[</div> <div> <p>Masc. <i>ēba-n-an</i></p> <p>Fem <i>ēba-n-del</i></p> <p>Neut <i>ēba-n-di</i></p> </div> </div>	<p><i>ēba-n-ar</i></p> <p><i>ēba-n-ahiṇ</i></p> <p><i>ēba-n-e</i></p>

Such a paradigm is noticed with verbal noun occurring in a predicate position. This type of pattern in Dravidian was named as appellative verb or conjugated nouns by Caldwell, of which Manda is

not an exception. Observe the following paradigm of verbal noun derived from the verb *dum* ‘to climb’:

- (21) *āne dumta-ta* ‘I am the one who jumped’
- āme dumta-taŋ* ‘We (excl) are the ones who jumped’
- āme dumta-taha* ‘We (incl) are the ones who jumped’
- īne dumta-ti* ‘You (sg) are the one who jumped’
- īme dumta-ter* ‘You (pl) are the ones who jumped’
- evan dumt-an* ‘He is the one who jumped’
- evar dumt-ar* ‘They (men) are the ones who jumped’
- edel dum-del* ‘She is the one who jumped’
- evahiŋ dumt-ahiŋ* ‘They (women) are the ones who jumped’
- ēd dum-di* ‘It is the one which jumped’
- ēv dum-ne* ‘They (non-human) are the ones which jumped’

The pronominal endings on the non-verb predicates exhibit a different pattern from the subject agreement markers of verbal predicate on the following two counts: (i) The verbal predicate neutralises the distinction, which is found in lexical pronouns, between the third person feminine and neuter gender both in singular as well as plural, whereas the non-verb predicates indicate agreement with all subject-pronouns, (ii) The agreement terminations, as shown below, differ in their shape from those appearing in the verbal predicate, as a comparison of (15) with (22) will transparently reveal.

(22) Agreement markers on non-verb predicates

	IP	IIP	IIIP		
			Masc.	Fem.	Neuter
Singular	-(a)ta	-(a)ti	-an	-del	-(a)di
Plural	-(a)taŋ (excl)	-(a)ter	-ar	-(a)hiŋ	-(a)ne
	-(a)taha (incl)				

5. Concluding remarks

The morphosyntax of the phenomenon of number system and its underlying semantic postulates in Manda are portrayed here in some detail. Unlike general Dravidian, the Kondh languages exhibit several interesting factors of number marking. The above attempt shows the interaction of linguistic levels and the involvement of phonology to pragmatics through morphology, syntax and semantics. Number is anchored at the semantico-pragmatic level which is expressed through syntax, morphology and phonology.

Number is not a superficial surface grammatical category, but it is anchored in the pragmatics-oriented meaning differences as perceived by the native speakers. The referential external world is categorised and classified by the process of naming which is reflected in the nominal expressions of language. The plural formation in Manda is a sustainable instance of interaction across linguistic levels from phonology to semantics through morphology and syntax. The syllable structure of phonology dictates the type of plural allomorph with non-human nouns, while semantics plays a pivotal role in number marking on human nouns. However, the phenomenon deserves a more detailed exploration in future.

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DANCE AND MUSIC OF SOUTH INDIA

V.S. Sharma, 2007, Demy 1/8, pp. 112, Rs. 75/- (US\$ 15/-)

In this monograph, the author has listed particulars of ragas, talas etc. of music, *hasta mudra*, *karana* etc. of dances following a long extract of Bharatmuni's *Natyasastra* along with some charming photographs in the concluding pages. He mentions controversies of deep import: for instance, the relationship of the dances described and theories propounded in *Chilappatikaram* and modern *Bharatanatyam*. The author asserts that the music of Chakkyarkuthu is rooted in Vedic music and that the twenty or so *svaras* employed are derived from the *svara*, *udatta* and *anudatta* of Vedic chants. The great bias our scholars have for the Sanskrit tradition works as a set of blinkers in our appreciation of our art forms.

OLD BENGALI SYNTAX

Subhadrakumar Sen, 2007, PB, pp. 12+126, Rs. 80/- (US\$ 16/-)

This monograph deals with the Syntax of two ancient texts, Carya and Doha. The author has restricted his study to Old Bengali which covers only one-fourth part of a single codex. The codex was discovered by Mr. Hariprasad Sastri in Nepal. Textual variations and other alternations like the ones made by Sukumar Sen are examined and accepted. The wide reading of the author especially in Indo-Aryan languages and the German language has enriched his statements on Old Bengali in several places. Following the introduction, the old Bengali syntax is discussed in six chapters viz. Gender, Number, Concord and Case Endings, Syntax of Cases, Post Positions, Adjective and Pronoun, Verb and Sentence Structure and ends with a bibliography.

A DESCRIPTIVE ANALYSIS OF A DIALECT OF TAMIL

**V.I. Subramoniam, 2003, HB, Demy 1/8, pp. xiv+85,
Rs. 170/- (US\$ 17/-)**

The thesis used only by researchers in the Kerala University and later in the International School of Dravidian Linguistics, has come out now in attractive format. When voicing of the written script is now attempted in several centres, its acoustic study helps to determine the voicing of the Tamil sounds. A pathfinding thesis completed in 1957.

FRICATIVES IN TELUGU: ARTICULATORY AND ACOUSTIC CHARACTERISTICS

K. NAGAMMA REDDY*

Abstract

The goal of this paper is to describe and to provide information from different perspectives on the articulation of fricatives, their acoustic features and linguistic functions in Telugu. Unlike stops and affricates, the fricatives function quite distinctly as a class in Telugu which have neither aspiration nor voicing contrast. All fricative phonemes in Telugu are voiceless and differ only in their place of production. There is, however, a considerable discrepancy in the phonetic description and phonological representation of Telugu fricatives. Speakers vary a great deal in their production for several reasons.

Although there are four perceptual articulatory domains of speech sounds (quality, duration, pitch and loudness) available to the human auditory system which are exploited in listening to speech, any two speech events at the acoustic level can be considered to be different in either quality or timing. The present paper describes the ways in which a speaker can control the production of fricative sounds in terms of their auditory perceptual quality by means of (1) frequency of fricative noise and (2) the ways in which these units of speech can differ in terms of their temporal characteristics such as duration which is responsive to a number of factors - local and global. Besides, the paper is supported by instrumental evidence of measurement of various phenomena from palatography, electrokymography and sound spectrography.

* This article of K. Nagamma Reddy who passed away on 19th May 2008 is published posthumously. (Ed.)

1. Introduction

In the articulation of a fricative consonant, two organs in the vocal tract are brought and held sufficiently close together for the escaping air-stream to produce strong friction. As the fricatives are, thus, characterized by a turbulent air-stream which occurs when air is channelled through a narrow constriction, the acoustic consequence of turbulence is a noise component (i.e. source). The spectra of fricatives can, therefore, be considered as the product of the noise source modified by transfer through a resonator and further modified by the effect of the sound radiating at the output. The frequency of the source of the noise itself indicates the place of articulation of fricative.

The present paper describes in detail the acoustic characteristics of fricatives in Telugu, mainly in terms of (1) location of (concentration of) energy in the *frequency* regions of the spectrum to represent their production quality, (2) *intensity* and (3) *duration* of each fricative which in turn is responsive to a number of factors such as (a) their intrinsic articulatory properties, (b) local influences of the structural linguistic context, and (c) global factors. Two speech events can be considered to be difficult at the acoustic level in either quality or timing (i.e. duration). To provide evidence of these differences, instrumental phonetic techniques such as palatography, electrokymography and spectrography are employed for the purpose of investigation. The following is a brief phonetic description, an outline of phonological system and structural patterning of fricatives in Telugu. This is provided to serve as a background to the present study.

2. Fricative Phonemes in Telugu

Telugu has quite a complex and coexisting system of fricative phonemes and their variants:

1. Fricatives can be spoken with an accent that reveals the speaker's geographical origin as Telangana, Rayalaseema, Coastal and Kalinga, or with an accent that is not restricted to any region but reveals the social class of the speaker (Nagamma Reddy, 1995). The features such as deaspiration of aspirated sounds and deretroflexion of retroflex sounds, simplification of consonant clusters, etc. carry information about speaker's social class and education.

2. The educated spoken variety of Telugu itself shows more than one variety of pronunciation, formal - informal, depending on the context of speech as pointed out by Sjoberg (1957). According to her, the three fricatives /s, ś, ṣ/ tend to be less differentiated in informal speech and /s/ is commonly used for all the three. Krishnamurti (1962) on the other hand says that the educated and the uneducated correlate with standard vs. non-standard and the three fricatives /s, ś, ṣ/ change to /s/ in uneducated speech.
3. There is also a discrepancy between Telugu orthography and phonology. There is no one-to-one correspondence between the phoneme and the grapheme (i.e. the 'sound' and 'letter'). The alphabet devised for the Telugu language does not correspond to the inventory of all fricative phonemes. Most of the existing symbols also represent the sounds of Sanskrit. While there are 5 fricative phonemes of modern standard Telugu, the symbol for /f/ has not yet been devised and /ph/ and /f/ are both, therefore, represented by the same grapheme in writing. The fricative series include /f/ in the set of fricatives, as Telugu grammarians were mostly influenced by the Sanskrit grammarians in drawing their models.
4. As in majority of world's languages (Ladefoged & Maddieson, 1996:176), modern standard Telugu (MST) consists of 5 fricative phonemes, all voiceless, only one /s/ among them is common to all the native speakers. The other four /f, ś, ṣ and h/ occur only in loan words and distinguish the uneducated from the educated speech.
5. Even in educated speech of some speakers, the distinction between /s, ś, ṣ/ tends to be reduced to two distinctions, viz. /s/ and /ṣ/ with /ś/ becoming an allophone of the /s/ before front vowels.
6. Lisker (1967), however, makes an interesting observation regarding the two fricatives /s/ and /ś/. He says the distinction between them is blurred. Many speakers use either of them before the front close and mid vowels, while before an open front vowel the speakers use only /ś/. If /ś/, then the quality of back open vowel changes to open front vowel. The vowel after /ś/ is predictably front open indicating phonotactic restrictions.
7. /f/ is produced either as /p/, or /ph/ and sometimes as /φ/ (e.g. [φo:nu] 'phone'). Sjoberg, the only scholar, who has observed and

therefore treated / ϕ / as a phoneme and also the /z/ sound which is generally an allophonic variant of voice affricate which occurs mostly in certain specific intervocalic contexts, the /j/ is pronounced as /z/ in /bu:ju/ 'spider web'.

8. Like the voiced affricate, there is a common tendency for speakers of Telugu to pronounce the voiceless affricate /c/ as /s/. E.g. /ci:ma/ > /si:ma/ 'ant'.
9. The /h/ in uneducated speech may not be pronounced, thus in such examples as /ha:ram/ > /a:ram/ 'garland'.
10. Although geminated (or long) consonants are very common in Telugu and other Dravidian languages, among the fricatives /f/ /s/ and /h/ do not occur in gemination. /s/ is noticed in gemination in such examples as /lessa/ 'great', /tapassu/ 'penance' /bassu/, /messu/, etc.

The following are the typical variants of fricative phonemes:

- i. /f/ There is often articulatory variation between /f/ and /p/ or /ph/ among Telugu speakers. Sometimes /f/ may be pronounced as [ϕ] (bilabial fricative) before rounded back vowels.
- ii. /s/ As there is no dental fricative phoneme in Telugu, some speakers tend to have dentalized quality of an alveolar fricative in such examples as /a:sti/ 'property' or /utsawam/ 'festival'.
- iii. / $\$/ There is often variation between / $\$/ and /s/. Some speakers tend to pronounce / $\$/ as alveolarized /s/ before front vowels. It may be pronounced as / $\$/ in certain varieties of northern dialect of Telugu.$$$$
- iv. / $\$/ There is often deretroflexion of / $\$/ , e.g. in /kastam/ 'difficult'.$$
- v. In many varieties of Telugu speech, /h/ is lost so that no distinction can be made between /ha:yiga:/ - /a:yiga:/ 'pleasantly' or /hari/ - /ari/ 'Lord Vishnu', etc. This is the only fricative which has voiced allophone [h̥] (i.e. variant) between voiced sounds and heavily nasalized allophone [h̃] in the environment of a nasal sound (Nagamma Reddy, 1991).

The following examples illustrate fricative contrasts in word initial and word medial positions. These oppositions are realized by means of only one phonetic feature known as place of articulation (see section 4). All fricatives in Telugu are, thus, distinguished by means of a five-term series in respect of place of articulation : Labiodental /f/ vs. alveolar /s/ vs. post-alveolar /ʃ/ vs. palato-alveolar /ʂ/ vs. glottal /h/.

<i>Word-initial Contrasts</i>		<i>Word-medial Contrasts</i>	
fa:nu	‘fan’	so:fa	‘sofa’
ha:ni	‘harm’	mo:ham	‘lust’
sa:ni	‘woman of disrepute’	ko:sam	‘for’
ʂa:pam	‘curse’	ko:ʂam	‘body part’
ʃara:yi	‘a pair of trousers’	do:ʃam	‘fault’

3. Distribution of Telugu Fricatives and their Sequential Constraints

All fricatives including the retroflex fricative (unlike the lateral and nasal retroflex consonants) can occur only in word-initial and word-medial positions as exemplified by the following data:

<i>FT</i>	<i>Initial</i>		<i>Medial</i>	
/f/:	/fa:nu/	‘fan’	/tufa:nu/	‘storm’
/s/:	/sagam/	‘half’	/kasuwu/	‘hay’
	/sne:ham/	‘friendship’	/samasya/	‘problem’
			/a:spatri/	‘hospital’
	/spruha/	‘consciousness’	/utsawam/	‘festival’
	/smruti/	‘memory’	/nispruha/	‘unconsciousness’
/ʃ/:	/ʃakti/	‘strength’	/a:ʂa/	‘desire’
	/ʃrama/	‘toil’	/ʃuʂru:ʂa/	‘service’
	/ʃwa:sa/	‘breath’	/aʂwini/	‘celestial star’
	/ʃya:mala/	‘name of a girl’	/naʃyam/	‘snuff’
/ʂ/:	/ʂaratu/	‘condition’	/niʂa:/	‘intoxication’
	/ʂika:ru/	‘a joy ride’	/ʂaʂti/	‘sixty’
			/puʂpam/	‘flower’

/h/:	/ha:ram/	'necklace'	/de:ham/	'body'
	/hrudayam/	'heart'	/a:hla:dam/	'happiness'
			/a:hwa:nam/	'invitation'

[FT = Fricative Type]

The occurrence/non-occurrence of each fricative before/after each vowel quality is tabulated in Nagamma Reddy (1981). There are quite a number of gaps when compared to other consonants, except aspirated, since most of these fricative consonants occur only in loan words. All possible word-initial and word-medial two-, three- and four-consonant clusters and sequences containing fricatives are also listed and exemplified from Telugu along with details of statements on possible combinations and specific restrictions in Nagamma Reddy (1980). The following is a list of two-, three- and four-consonant clusters/sequences with fricatives in Telugu:

sr-/sr-, sw-/sw-, sp-/sp-, st-/st-, sk-/sk-, sph-/sph-, sth-/sth-, sm-/sm-, sn-/sn-, śr-/śr-, śl-/śl-, śy-/śy-, św-/św-, ṣṭ-/ṣṭ-, hr-/hr-, -ts-, -ms-, -rs-, -mś-, -rś-, -ks-, -mh-, -rh-, -hn-, spr-/spr-, str-/str-, skr-/skr-, smr-/smr-, ṣṭr-, -tsn-, -tsy-, -msk-, -msth-, -mskr-, -rśw-.

It can be seen from the diagrams given in Nagamma Reddy (1980) that there are many sequential constraints or restrictions in Telugu on the combination of consonant sequences.

4. Articulatory Phonetic Description of Fricatives - Place of Articulation - A Palatographic Study

The oppositions in Telugu fricatives are realized by means of only one phonetic parameter, i.e. place of articulation. These oppositions are between alveolar, post-alveolar and palato-alveolar areas of articulation. Even though there are a few phonetic studies of Telugu consonants which have used phonetic labels referring to the place of articulation of consonants, there seems to be a considerable discrepancy in the articulatory description of representation of features of especially the fricative sounds in terms of their exact place(s) of articulation(s). No two of these are identical with regard to their specification of places of articulation. The Telugu fricative phonemes and the labels assigned to them by various scholars are as follows:

<i>Fricative Phoneme</i>	<i>Anonymous Author (1918)</i>	<i>Sjoberg (1962)</i>	<i>Kostic et al (1977)</i>
/f/	-	bilabial / ϕ /	labio-dental
/s/	dental	dento-alveolar	alveolar
/ʃ/	medio-palatal	pre-palatal	-
/ʒ/	alveolar	pre-palatal	palatal
/h/	laryngeal	post-velar	glottal

Among the scholars listed above, one study - by Anonymous Author (1918) - is based on an instrumental investigation through palatography, but restricted to only the pronunciation of the letters of the Telugu alphabet, hence /f/ is excluded in his description. The investigation of exact place of articulation of Telugu sibilant fricatives (cf. Nagamma Reddy, 1981) by means of similar technique, but direct palatography, revealed the following: /s/ - alveolar, /ʃ/ - palato-alveolar, /ʒ/ - post-alveolar. As mentioned earlier, there is a tendency for alveolar fricative to be dentalized and palato-alveolar to be alveolarized in certain specific surrounding contexts. A detailed articulatory description of each fricative based on palatographic study is given below. Only the outline description of fricative articulations is discussed here. (For more details, see palatographic study by Nagamma Reddy, 1981:382-384).

/f/. In articulating /f/, the inner surface of the lower lip makes a light contact with the edge of the upper front teeth so that the escaping air produces friction.

/s/ is produced when the tongue makes contact all around the teeth and gums, except on the frontal incisors. The narrowest air channel (i.e. the maximum constriction) for /s/ is in the area of the alveolar zone. There is no obvious difference in the place of articulation when followed by front and back vowels.

/ʃ/ has maximum constriction in the alveo-palatal zone. It has wider (horizontal band of) contact than the /s/. As a result, the air channel in the middle of the palate is wider for /s/ than for /ʃ/. It is articulated by the tip and blade of the tongue against the alveolar ridge by holding the whole body of the front of the tongue simultaneously in a sort of raised position in such a way that the space between the front of

the tongue and the palate is narrower than in the case of /s/. The sides of the main body of the tongue also make a firm contact with the sides of the palate.

/ʃ/ is produced by making a firm contact between the tongue and the side upper teeth extending as far forward as the alveolar zone. The maximum constriction is in the zones of back-alveolar and post-alveolar. If we compare /s/, /ʃ/ and /ʂ/, we find that the contact on the sides of the palate is different for each fricative. In the articulation of the retroflex fricative, the tongue is somewhat hollowed by curling the tip of the tongue towards the hard palate and by bringing the under-surface of the tip of the tongue near to the back of the alveolar ridge so that the space between them is very narrow to let the air escape through the narrow space, causing audible friction. The posture of the tongue tip and the amount of its curling in the articulation of retroflex fricative also vary according to the vowel context as for retroflex plosives.

/h/. During the articulation of /h/, the mouth is held in a vowel position, then the air is expelled from the lungs with considerable pressure, causing some friction throughout the vocal tract. The friction is largely associated with the nature of the following vowel. /h/ is voiceless in utterance initial position and word-medial position before a voiceless consonant. It may have some voicing in intervocalic position or when next to a voiced consonant: it has strong breathy voice with very slight friction. In the environment of an immediate nasal consonant, or of surrounding nasalized vowels (i.e. vowels in the environment of nasal consonants), /h/ is strongly nasalized: e.g. in /simham/ 'lion' and /mo:ham/ 'lust'.

5. Data Collection, Recording, Informants and Instrumentation

The data was collected on the basis of Telugu wordlists prepared by me for this purpose. The wordlist contained all the five fricatives occurring in both the positions - initial and medial in different phonetic contexts. The material then was recorded on a professional tape-recorder in a sound-treated (recording) room to facilitate the acoustic analysis through spectrography. For palatography and electrokymography experimentation, the words were directly spoken by the informants. The fricatives are distinguished only by the educated and only the /s/ exists in uneducated speech since the latter simplifies

the system by substituting /p/ for /f/, /s/ for /ʃ/ and /ʒ/, and zero for /h/. The investigation is based primarily on the speech of 8 informants - all educated.

On the whole, three kinds of instrumental techniques are used for this study: 1. *Palatography* to find out the exact place of articulation of three sibilants, 2. *Electrokymography* to measure the duration of fricatives in isolation and in various environments to supplement the acoustic data obtained by means of spectrography, and 3. *Spectrography* to measure the frequency of fricative noise, intensity and duration.. Each technique and its interpretation of data recorded are discussed in detail elsewhere by Nagamma Reddy (1981).

Experimental Test Wordlist

The following is the wordlist used for the spectrographic analysis:

/fa:ramu/, /fakhi:ru/, /saramu/, /ʃaramu/, /ʃa:rada/, /ʃara:yi/, /a:ha:ramu/, /wiʃa:dam/, /wiʃa:lam(u)/, /wiha:ram/, /sthalamu/, /spaṭika/, /ʃro:ta/, /ʃlo:kam(u)/, /kaṛṣakuDu/, /arhata/, /ʃiʃiram(u)/, /sarita/, /a:sti/, /pa:su/, /ko:ʃamu/, /ʃo:kamu/, /ʃlo:kamu/, /saʃe:ʃam(u)/, /prasa:dam(u)/, /a:fi:su/, /ka:fi/, /si:sa/, /ʃeʃi/, /kuʃi/, /pusi/, etc.

6. Acoustic Characteristics of Fricatives

There are not many studies on acoustic features of fricatives (Ladefoged & Maddieson, 1995). The acoustic structure (i.e. characteristics) of Telugu fricatives is studied through spectrography. The distinction between affricates and fricatives depends upon relative duration than upon frequency and intensity. Although the fricatives themselves are distinguished upon the frequency of noise and intensity, the following sections describe all three of the acoustic parameters:

- a. The frequency of noise component
- b. The intensity of fricatives
- c. The duration of fricatives

6.1 The Frequency of Fricative Noise

Fricatives as a group are characterized by a continuous noisy, aperiodic component. Place of noise itself indicates place of articulation

of fricatives. It is observed from spectrograms of Telugu that fricatives differ mostly in their cut-off noise at low frequency or sometimes for certain fricatives at the high frequency. /f/ and /h/ cover generally a wide band of low frequency energy. The sibilants can be further distinguished according to place of articulation on the basis of relative frequency. The alveolar fricative /s/ generally has high frequency, a first spectral peak at about 4,000 Hz, the palato-alveolar fricative /ʃ/ is somewhat lower at about 3,500 Hz, and the post-alveolar retroflex fricative /ʂ/ at about 2,500 Hz (cf. spg. 21 /saʃe:ʂam(u)/). /f/ has very low band of noise (even distribution of energy).

The acoustic structure of each fricative in terms of its concentration of noise component frequency can be summarized as follows:

- /f/ a noise range from about 3,800 Hz (faint) and above 5,800 Hz and weak noise at low frequencies (see spg. 6).
- /s/ a noise range from about 3,500 Hz or 4,000 Hz to 6,000 Hz and above (cf. see spg. 7).
- /ʃ/ a noise range from 2,500 Hz or 3,500 Hz above depending upon the quality of the following vowel (cf. spgs. 3, 17 & 9).
- /ʂ/ a noise range from 1,800 Hz above to 8,000 Hz intensification of energy between 2,000 Hz and 3,500 Hz (cf. spg. 4 & 8).
- /h/ a noise range from 2,600 Hz to 3,000 Hz and above and characterised by the simultaneous occurrence of noise and periodicity between voiced sounds and has formant-like structure of the neighbouring vowel quality (see spg. 22).

6.1.1 Co-articulatory Effects of Adjacent Sounds

This can be clearly noticed from the spectrograms of, for instance, /a:sti/ where the /s/ is influenced by dental articulation of a plosive and hence the noise frequency spreads below its range to 3,000 Hz (compare spectrograms of /s/ in /sarita/ and /a:sti/). Among the fricatives, the /ʃ/ generally shows variation in the cut-off noise at low frequencies due to its adaptation and co-articulation with neighbouring vowels. Spectral characteristics are modified due to co-articulatory effects of adjacent sounds, especially by front vs. back vowels. It has

lower distribution of acoustic energy when compared to /s/ and /ʃ/, and it shows still lower frequency noise than the /ʒ/. The /h/ is always characterised by the formant-like bands in the lower frequency region resemblance to the specific quality of adjacent vowels formant pattern. Sometimes /s/ and /ʃ/ also have formant-like structure seen on spectrograms of /mo:hamu/ and /do:ʃamu/.

6.2 Intensity of Fricatives

On the basis of relative intensity, fricatives can be divided into two groups: i. *sibilants* and ii. *non-sibilants* (Ladefoged & Maddieson, 1996:137-181). The sibilants /s, ʃ, ʒ/ have higher intensity and the non-sibilants /f/ and /h/ have relatively low intensity of fricative noise wherever they occur as shown on the spectrograms 1 to 10. It is observed that there is variation in the intensity among sibilants themselves depending upon the environment in which they occur as noted on the spgs. 7 and 17. The medial fricatives have higher intensity than the corresponding initial fricatives of the same word. The order of fricatives in terms of greater/lesser relative intensities as observed on the spectrograms of Telugu is as follows:

$$ʒ > ʃ > s > f/h$$

6.3 Duration of Fricatives

Though the finest details are essential to solve the problems of speech synthesis and to achieve a reliable quality of speech output system (Klatt, 1976 & Harrington, 1988), there is very little systematic study of quantitative data available on changes or modifications in segmental durations of speech from all perspectives with regard to Indian languages. The present study provides not only the measurements of duration of each fricative as determined by its nature of articulation (i.e. inherent/intrinsic duration) but also the phonetically conditioned variation in duration due to (i) positional effects, (ii) contextual co-articulatory effects (e.g. in combination with other segments) and (iii) structural effects (e.g. mono- vs. polysyllables) mostly at word level. The segmental length is dependent both on the inherent articulatory phonetic properties of the concerned sound units and a number of linguistic positional constraints imposed contextually.

6.3.1 Intrinsic Phonetic Duration of Fricatives

The details of intrinsic duration of each fricative according to its place of articulation and in various positions and contexts in isolated

words and in connected speech are discussed elsewhere (Nagamma Reddy, 1981, 1988, 1994). The following order of increase/decrease (i.e. reduction) in duration (cs) of fricatives is found according to their place of articulation:

<i>Word-initials (in monosyllables)</i>	<i>Word-medials (in disyllabics)</i>
ʃ > ʂ > s > f/h	s > ʂ > ʃ > f > h
24.0 22.0 21.0 20.0	12.5 12 11.5 8 7.5

Fricatives, thus, exhibit different order of increase in their duration depending on their occurrence in initial or medial position.

6.3.2 *Position in an Utterance*

There is a general tendency like any other consonant, of shortening of fricative segments of non-initial syllables much more than the initials. The first consonant is generally 1 to 2 cs longer than the same second consonant, in examples such as /si:sa/ ‘glass’. Word-initial fricatives have a tendency to be longer in duration than the intervocalic fricatives.

6.3.3 *Contextual Co-articulatory Effects*

The duration of fricative changes depend upon the immediate segment type. For example, /s/ in /wa:su/ ‘name of a boy’ is much shorter than the same /s/ in /wa:stu/ ‘traditional belief for construction of a house’.

The phenomenon of consonant being lengthened (rather than shortened) in consonant cluster/sequence than in isolation is quite contrary to English (see Haggard, 1973 & Klatt, 1976). In Telugu, consonants in word-medial position tend to be lengthened (Nagamma Reddy, 1993). Table 1 on the following page illustrates the duration (cs) of fricatives in word-medial sequences. (Measurements are made from electrokymographic recording.)

As seen from Table 1, fricatives have a tendency to be lengthened before a consonant than the same consonant occurring between vowels. The duration of fricatives in polysyllabic words between vowels is less than 12 cs and before a consonant is more than 12 cs. The duration of a fricative, thus, varies a great deal depending on

its nature of articulation and the quality of the immediate neighbouring consonant.

Table 1
Duration (cs) of Word-medial Fricatives followed and preceded by another Consonant in sequence

Consonant Sequence	Word	Gloss	First Consonant	Second Consonant
Type				
-sp	a:spatri	‘hospital’	15.0	11.0
-st-	a:sti	‘property’	16.0	16.0
-sk-	biskattu	‘biscuit’	14.0	10.0
-sm-	a:sma	‘asthma’	11.0	9.0
-sw-	hraswam	‘short’	25.0	6.0
-śn-	praśna	‘question’	16.0	8.0
-śr-	a:śramam	‘hermitage’	19.0	4.0
-św-	wiśwam	‘universe’	20.0	6.0
-ṣp-	puṣpa	‘name of a girl’	15.0	14.0
-ṣt-	kaṣṭam	‘difficulty’	16.0	12.0
-ṣk-	niṣkarṣa	‘decision’	16.0	12.0
-hl-	a:hla:dam	‘happiness’	19.0	7.0
-hw-	jihwa	‘tongue’	23.0	7.0
-ps-	apsarasa	‘nymph’	14.0	10.0
-ms-	hamsa	‘swan’	18.0	10.0
-mś-	wamśam	‘lineage’	14.0	11.0
-rṣ-	warṣam	‘rain’	4.0	16.0
-rh-	arhata	‘eligibility’	5.0	14.0

However, the fricatives in word-initial clusters, contrary to word-medials, show positive reduction in this duration agreeing with Haggard (1973), Klatt (1976), etc. as shown on the spectrograms (see

spg. 11 vs. 12 and vs. 16). Fricatives in word-medial homorganic sequences also tend to be shortened.

6.3.4 Structural Effects

There is a tendency for all fricatives to be reduced/shortened when the number of syllables in a word or in an utterance is increased. The mean duration 9 cs of fricatives in words of various structures according to their number of syllables is given below.

Variation in the Mean Duration (cs) of Fricatives
according to number of Syllables in a Word

<i>Monosyllabics</i>	<i>Disyllabics</i>	<i>Trisyllabics</i>	<i>Tetrasyllabics</i>
22.0	9.5	8.0	6.5

There is a consistent reduction in the duration of a fricative when the number of syllables is increased.

Telugu makes use of length as an emphatic marker in such examples as /bassu/ ‘bus’ vs /basssu/ ‘it is the bus, not any other vehicle’. The prolonged /s/ indicates the use of length as semantic marker and the duration of it is generally more than three times that of the short one. The use of duration of fricatives at various levels needs to be further investigated.

7. Concluding Remarks

Fricatives in Telugu in general pose a problem as there is a great deal of variation among the native speakers. Scholars who have carried out research in this area do not agree with one another and there is no complete systematic study of the fricatives in Telugu either articulatory or acoustic. The main confusion has arisen because of several borrowed lexical items being accepted into the language. That is why native speakers show considerable variation in the pronunciation of fricatives which is very clearly shown on the spectrograms in terms of the blurring of the cut-off low frequency noise. Compare the spectrograms of /s/ in /saramu/ and /ʃ/ in /ʃara:yi/, or /s/ and /ʃ/ in /saʃe:ʃam/.

Fricative /f/ found in borrowed items is usually realized as either /ph/ or /p/ sometimes even /ɸ/. Sjoberg is the only one who posits /ɸ/ as a phoneme for Telugu. The reason could be that she did hear a fricative

instead of a plosive because of a transition phase occurring in Telugu speakers. (This is just a speculation.) There is enough evidence of /f/ being produced as /ph/ or /p/. At the same time, it is also observed that some speakers differentiate between /f/ and /ph/ has a contrastive /f/ (mainly in borrowed words) as well as /ϕ/. Graphemically the /f/ does not have a representation in Telugu but is represented by the same grapheme for /ph/.

All fricatives are characterized by random noise component. They can be distinguished according to the place of articulation on the basis of relative frequency of noise and its relative intensity. Telugu fricatives clearly share the acoustic property of sibilance. The fricatives /s, ś, ṣ/ are greater in intensity and duration than /f/ and /h/. /s, ś, ṣ/ can, therefore, be grouped as a class of sibilants distinct from /f/ and /h/. Like /h/, /ś/ and /ṣ/ have greater co-articulatory effect of adjacent segments. The ṣ is characterized by greater intensity (as it has wider opening of the vocal tract in order to allow the tongue to curl backwards) than any other fricative in the series.

The /h/ is the shortest among the fricatives. Several factors such as place of articulation, position in an utterance, linguistic structure, number of syllables in a word and others at different levels contribute towards the modification of duration of fricatives under study. The long fricatives are 2 to 3 times as long as the corresponding short ones, for instance, /s/ in /basa/ 'lodging' is approximately 12.0 cs and the /ss/ in /bassu/ is about 29.0 cs, the ratio between short and long being 2.4. Sibilants /s/, /ś/ and /ṣ/ are consistently 2 to 4 cs longer than the non-sibilant articulations /f/ and /h/. Comparatively short duration of /f/ and /h/ within the group of fricatives is the one that makes fricatives as a group significantly shorter than voiceless plosives. Fricatives in clusters tend to be reduced (see spgs. 11 & 12) as in English (Haggard, 1973; Klatt, 1976 and Nagamma Reddy, 1996).

One has to search for invariant acoustic correlates of phonetic distinctions, as mentioned by Stevens and Blumstein (1981) which have the significance for issues related to the development of speech perception, recognition and the processing models of speech including the knowledge-based recognition system. As Fant (1993) points out, more experiments are needed to obtain a more comprehensive view of specific language structure. The present endeavour has been an attempt at providing relevant data, phonetic description and analysis of fricatives in Telugu.

Appendix

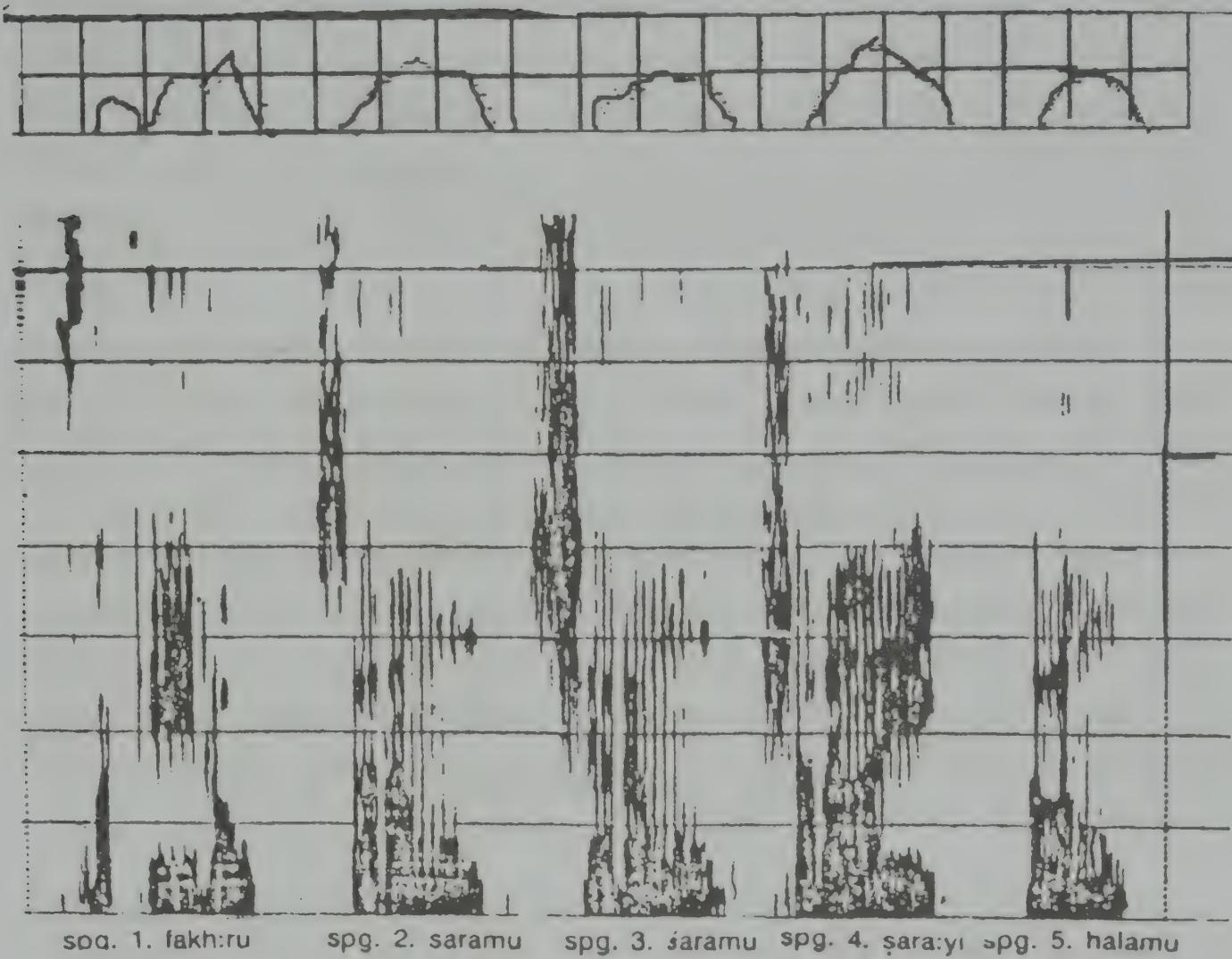


Figure 1: Sound Spectrograms of Fricatives in Word-initial Position

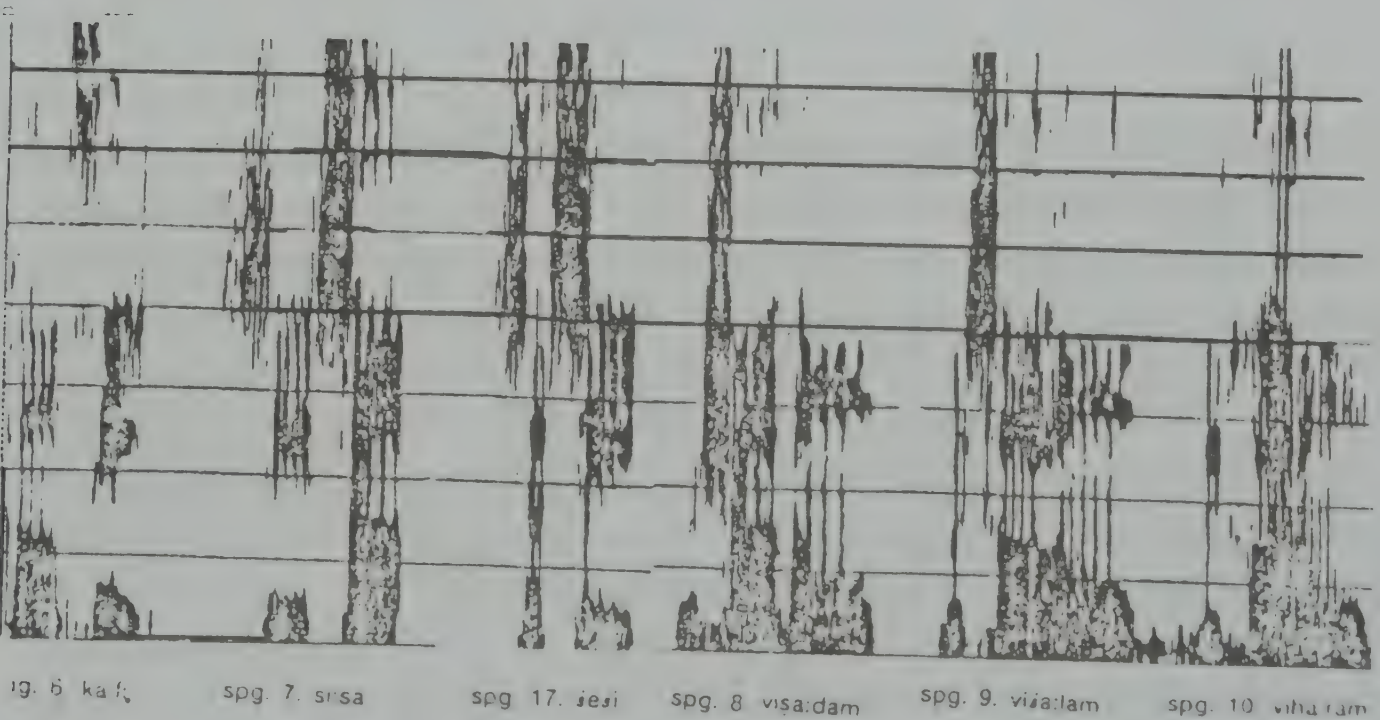


Figure 2: Sound Spectrograms of Word-medial Fricatives

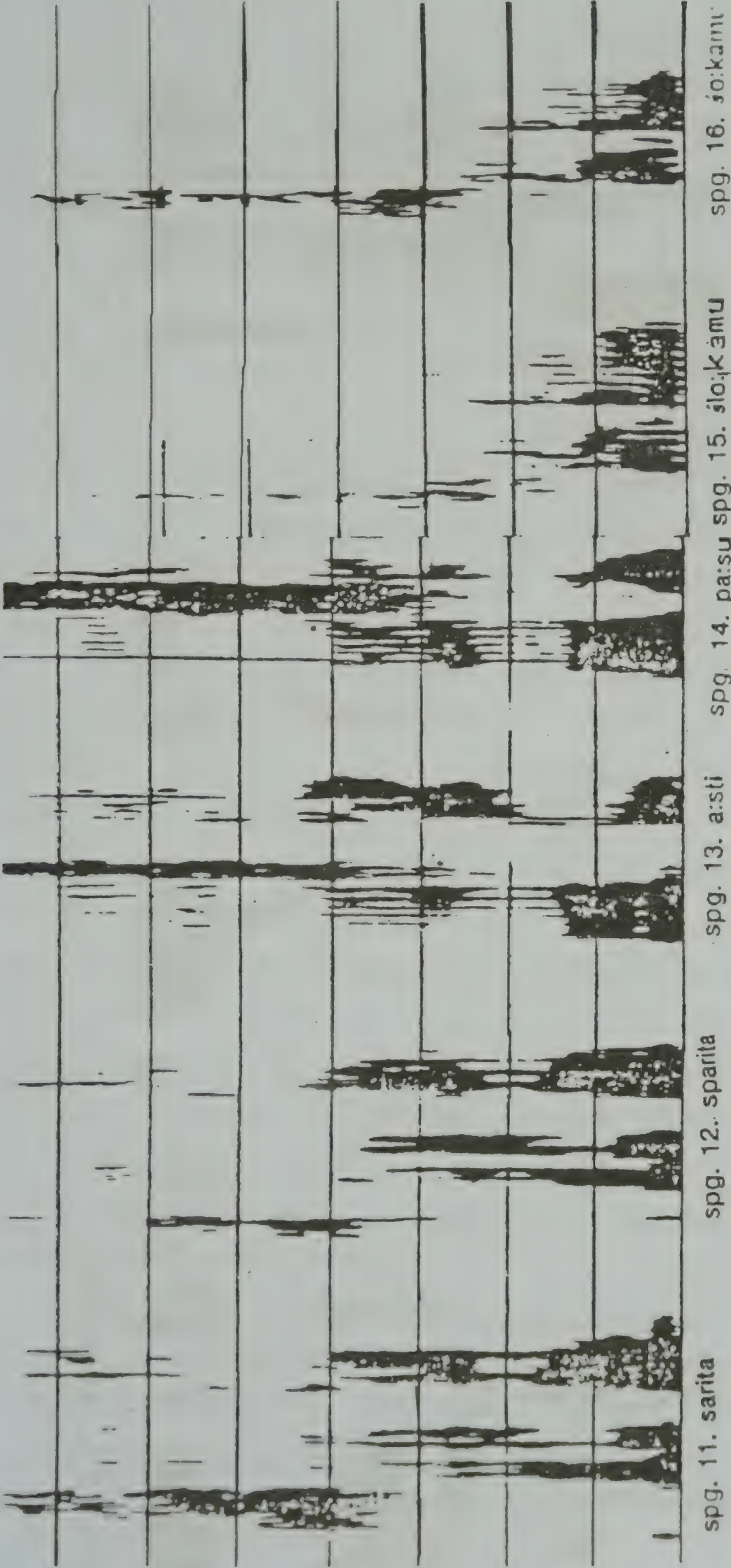
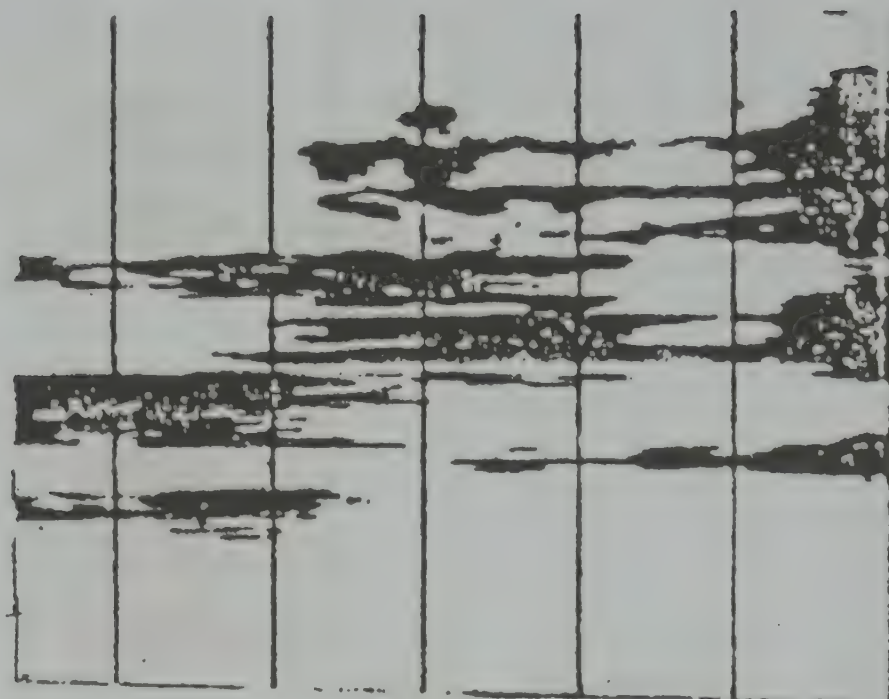
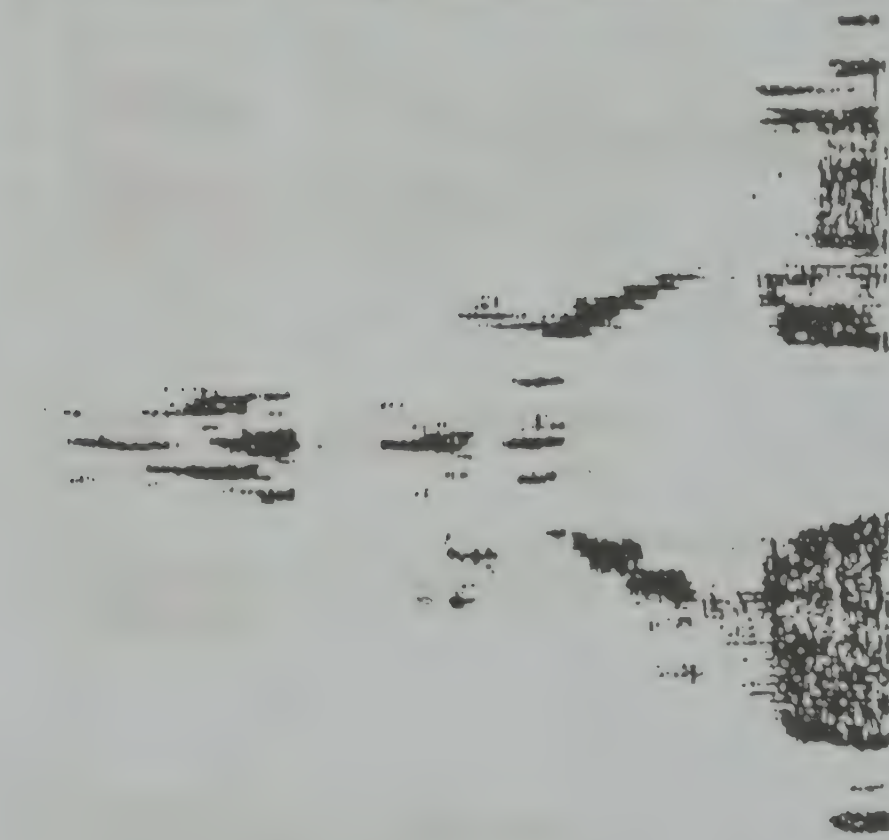


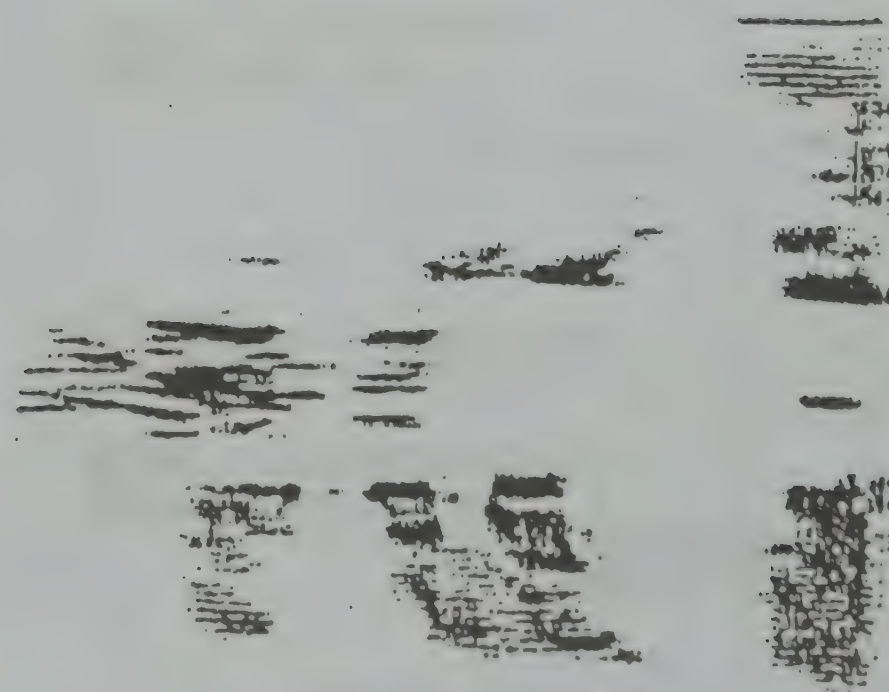
Figure 3 : Sound Spectrograms of Fricatives in C-clusters



S S S S
spg. 21. sasa:şamu



| spg. 20. do:şamu



spg. 22. mo:hamu

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ARCHAEOLOGICAL CONTEXT OF TAMIL-BRAHMI SCRIPT - SOME ISSUES

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In any country, inscriptions generally appear due to necessity of conveying certain messages to the society. The necessity may fall in any sphere of the society, say religious, political or social. So one has to see what necessity made them to express or engrave an inscription in a particular society. It is, therefore, not necessary to expect inscriptions at all places though they had the knowledge of a language or script. The mere presence of a script or inscription at one place and non-availability of inscription/script at another place does not convey anything. The usage of particular language in a particular area also does not convey the meaning that all the people followed the same language in that area. For instance, in Karnataka and Andhra Pradesh, till the advent of 5th to 6th centuries A.D., the language used in epigraphical records is Prakrit. It does not mean that they are not aware of the language of Kannada and Telugu in their respective areas. Thus, one has to see all the material evidences like inscribed potsherds, coins and epigraphical records collectively rather than individually before coming to a conclusion. Any official language cannot be taken as the language of the region. For instance, all the early Pallava royal inscriptions are either in Prakrit or in Sanskrit language. These two languages are considered to be the official languages of the dynasty and official script is Pallava grantha. In contrast to this, we find *vatteluttu* script and Tamil language in contemporary memorial stones. This is a fine example to demonstrate that the people or common man's language and script may differ from the official language and script. So, one has to take extra care before deciding on the language and script based on the evidence

found both in official and non-official records found in all media that are encountered in a particular region.

Likewise, one should not arrive at any conclusion based on the data obtained from a particular class of primary source. The data may be true but it may not reflect the totality of the society. For instance, all Tamil-Brahmi cave inscriptions found in Tamil Nadu are dedicated to Jains. If one takes this epigraphical source alone, then one may feel that there is only one religion, Jainism existed in Tamil Nadu during 3rd century B.C. If one takes the contemporary Sangam literature, there is hardly any reference on Jainism but it has plenty of references on Hinduism. If one takes this literary source, then one has to come to the conclusion that there is no Jainism in Tamil Nadu but Hinduism alone dominated the scene. If one takes inscribed potsherds and coins, we hardly get any reference on religion and it seems that Tamil Nadu looks like a secular state. Thus, one should not come to a conclusion based on the non-availability of a particular material. The Kaveri delta, the ancient Chola country, does not yield a single Brahmi stone inscription till date whereas other regions like Pandya and Chera country were familiar with such inscriptions. It does not mean that they are not aware of the script or language. The non-availability of the rock-shelter would have been the cause for its absence. However, the inscribed potsherds collected from Vallam and Uraiyr excavations in Kaveri delta demonstrate that they too followed the same language and script. Likewise, the linguistic style of a particular primary source may differ from the other due to the nature of content such as religious document, trade document, political document, etc. The frequency of certain words in each document, though contemporary, may differ. For instance, the word *dhamma* is used in Tamil-Brahmi inscriptions as they were donative in nature and meant for Jain monks. Thus, arriving at a definite conclusion without understanding the complexity of the source should be avoided and sometimes it is undesirable too. By taking these factors into account, an attempt is made while analysing the various facets of the Tamil-Brahmi script.

One of the earliest satisfactorily deciphered scripts in India is Brahmi script. All other earlier Indian scripts like Indus script and graffiti marks are yet to be deciphered though there are some claims on the nature of the script. The term 'Brahmi' is found in the list of scripts in India during the preparation of religious texts like Buddha Jataka

Lilithavistara and Jain scripture *Pannavanasutta* and it finds its place as the foremost script. Scholars feel that its primary position indirectly indicates wider usage in India. Based on its primary place, the script that is available throughout India in 3rd century B.C. has been designated as 'Brahmi script'. On the origin of script, there are difference of opinions that it has originated from Semitic, south Semitic, north Semitic, graffiti, Indus script and alike. These are based on linguistic, orthographic and palaeographical grounds. Besides, there are certain traditional views. Buddhists claim that this script was developed by Buddha whereas Jains assert that it was fashioned by their *tirthankara* Rishabhadeva in the name of his first daughter Brahmi and Hindus declare that it was created by Brahma, so it got its name. Since all the three important religions of India are claiming the creation, it seems this script has developed on its own as part of human cultural evolution and it had its own antiquity, well before all these three religions took shape. There were nearly 64 prevalent scripts in India as claimed but none of the religious sects claimed the ownership to other scripts. It implies, therefore, that by this time, this script became one of the prominent scripts of India. It is also clear from the list that there is a script in south India called in various terms like *Damili*, *Dravidi* and *Dramili*. Though we have not come across all the scripts listed in the literature, we do get three important scripts, viz. Kharoshti, Brahmi and Damili (Tamil). Now it is realised that Brahmi script is a variant of *Damili* or vice versa. The scholars are entangled with various theories in identifying the origin of two scripts, viz. Brahmi and *Damili*. The crux of the problem is that both have been used simultaneously in India and in Sri Lanka. Different scholars have put forth quite a number of arguments both in favour of and against the origin. The recent evidences unearthed in archaeological excavations and explorations at Kodumanal, Pulimankombai and Thathapatti in Tamil Nadu and at Anuradhapura in Sri Lanka throw much light on this aspect. It generated much debate on the origin and spread of this script. In this section, an attempt is made to place the available data on *damili* (Tamil-Brahmi) in front of the scholars to judge their value and nature as it had wider ramification or implication on the history of India.

Tamil-Brahmi

In Tamil Nadu, the earliest available deciphered script, next to graffiti, is the Tamil-Brahmi script. There are also different opinions

among scholars in naming the script as Tamil-Brahmi. Some scholars insist that it should be called as *Damili* as mentioned in the literature. In India, the Brahmi script was first found in Asokan edicts, so they were designated as Asokan-Brahmi or after his dynastic name Mauryan-Brahmi. Later on, they discovered a variant of this script which has certain distinct letters, particularly the one found at Bhattiprolu in Andhra Pradesh. To differentiate this, they called the one found in the north as northern-Brahmi and the one found in the south as southern-Brahmi. Soon after, the discovery at Mangulam in 1882 by Robert Sewell and subsequent satisfactory decipherment in 1924 K.V. Subrahmanya Aiyer (1924:275-300) made on the script found in rock shelters of Tamil Nadu again throw some light on this script. The inscriptions of Tamil Nadu, in addition to some distinctive scripts, were written in Tamil language whereas the inscriptions outside ancient Tamil Country (ancient *Tamilagam*) were written in Prakrit language. So, to differentiate them from Prakrit-Brahmi, they were designated as Tamil-Brahmi. The term Tamil-Brahmi stands for the inscription that carries Tamil language and Brahmi script, with certain unique scripts to denote the letters like *la*, *la*, *ra* and *na*. Further, the letter *ma* has also some morphological difference. Natana Kasinathan feels that the inscription that is found outside Tamil Nadu should be re-designated as Prakrit-Brahmi rather than calling them as Asokan-Brahmi or Mauryan-Brahmi. This opinion seems to be correct as the available evidence suggests that the king Asoka might not have developed this script. Though pre-Asokan evidences are rare but future discovery may tilt this situation. It would be proper and appropriate if one designates the inscription based on language and script instead of calling them based on ruler's name or dynastic name. This would help to come out of certain chronological barriers.

Outside Indian context, much evidence comes from Sri Lanka. I. Mahadevan called the Brahmi script found in Sri Lanka as Sinhala-Brahmi (Mahadevan 2003:117) and the language as Sinhala-Prakrit. He intended to convey the message that there are certain peculiar scripts and certain linguistic styles used in that country. So he designated them as Sinhala-Brahmi and Sinhala-Prakrit. The term Sinhala-Brahmi indirectly denotes that the language used in Sri Lanka Brahmi inscription is Sinhala or one may say it is Sinhalised Prakrit. He used the term 'Tamilised Prakrit' to denote the position in Tamil-Brahmi inscription (Mahadevan 2003:315-375). In Tamil Nadu,

the language is Tamil, so his term stands well. But this is contradictory to the evidence found in Sri Lanka. All the early inscriptions so far found in Sri Lanka are in Prakrit language and not in Sinhala language. There is no difference of opinion that Sinhala is evolved from Prakrit but it does not mean that Sinhala language was in existence in 3rd century B.C. or at the time of Asoka. The language Sinhala acquired its form around 7th century A.D. and the Sinhala script developed from Brahmi script as in India but under the influence of Pallava Grantha. Likewise, one may also point to similar situations found in Kerala. The language used in Brahmi inscriptions of Kerala is Tamil as it was a part of ancient Tamilagam at that time. I. Mahadevan rightly called them as Tamil-Brahmi and not as Malayalam-Brahmi though Malayalam language is evolved from Tamil later on.

At script level, there are certain distinctive features. So, I. Mahadevan calls them as Sinhala-Prakrit. In addition to scripts, there are certain linguistic styles surfaced in inscriptions like *ja* is being used as *jha* and so on. So he called them as Sinhala-Prakrit. The terms Sinhala-Prakrit and Sinhala-Brahmi stand for the distinctive usage of script and language respectively. The regional variations of such kind are also encountered in India too. For instance, Asokan edicts of Gujarat region like the one found at Girnar and the one found in Magadha region have certain features but, overall, the language is Prakrit. So, the scholars identify these features as regional variation. The same is the case with Sri Lankan inscriptions also. The language is Prakrit with certain regional variation. Further, the distinctive scripts that are encountered in Sri Lankan inscriptions also surfaced in Tamil-Brahmi inscriptions but here he calls them as Tamilised Prakrit (Mahadevan 2003:315-375). If one observes the features at close, the Sri Lankan Brahmi and Tamil-Brahmi had close relation than with their counterpart Asokan-Brahmi. Therefore, at this stage, analysing the similarity between the Tamil-Brahmi and Sri Lankan Brahmi would be appropriate as both had serious chronological implications.

Tamil-Brahmi and Sri Lankan Brahmi

In Tamil Nadu, the availability of the inscriptions is widespread and it is found on different media like on stone, coins, seals and potsherds. It is found throughout Tamil Nadu. The content of the inscriptions is both secular and non-secular in character. The same

situation also prevails in Sri Lanka. Besides thousands of inscriptions, inscribed potsherds were unearthed at Anuradhapura (Conningham 1996:73-79), Poonagari, Mannithalai, Vettukkadu, Kalmunai and Kandarodai and on coins at Akkurukoda (Bopearachchi 1999) and on seals at Anaikottai (Raghupathy 1987). These evidences clearly suggest that the usage of Brahmi script is widespread both in Tamil Nadu and Sri Lanka. Mahadevan feels that Jains introduced Brahmi script in Tamil Nadu and Buddhist in Sri Lanka (Mahadevan 2003:93-96). This religious connotation has serious chronological implication. At any point of time, one cannot push the date of the script before the introduction of religions in these two regions. It is widely believed that Buddhism is introduced in Sri Lanka during Asokan times. So the date cannot be carried beyond the middle of 3rd century B.C. But this is contradictory to the ground reality. Script and religion need not be linked as a single component or as a package, rather it can be seen as independent of its own. This religious undertone does not carry much weight. Mahadevan viewed that Jainism is introduced into Tamil Nadu from Karnataka probably from its southern centre at Sravanabelagola (Mahadevan 2003:127-128) and so the script also. If Jains have introduced Brahmi script in Tamil Nadu, then one must get the early inscriptions in Sravanabelagola, the southern Jain centre, but till date not even a single early inscription is found in this region. Therefore, the religious connotation may be avoided in dealing with the introduction of script. The recent discoveries of Tamil-Brahmi inscribed memorial stones at Pulimankombai and Thathapatti in mid-Vaigai valley throw much light on this vexed problem. One of the inscriptions of Pulimankombai is considered to be earlier to Mangulam inscription. It clearly suggests that the people are aware of the script prior to 3rd century B.C. Further, these inscriptions are raised for the heroes who died in cattle raid. It does not carry any religious connotation or any Prakrit word. Further, these memorial stone inscriptions are engraved in pure Tamil (Rajan 2007:118-121).

It seems, according to Mahadevan, that the script had been introduced simultaneously throughout the region, if one takes his date as an indicator. There are evidences to prove that Jainism entered Sri Lanka along with Buddhism or even before Buddhism. *Mahavamsa* states that the king Duttagamini constructed a Vihara at Abhayagiri after demolishing the *Jaina Palli* established by the Tamil king (*Mahavamsa* 33:43:44). It suggests Jainism entered Sri Lanka before

Buddhism. Even before Jainism, there is a possibility that the trader would have carried the language and script. Unlike Sri Lankan Buddhist inscriptions, the Tamil-Brahmi inscriptions do not carry the Jain philosophy. It is on the basis of certain names like Kaniya, Nanda, Asiriya, Upasan and Amanan (Mahadevan 2003:129-134) these inscriptions are assigned to Jain. A few scholars view them as Ajvikas. However, such names are also encountered in Sri Lankan Buddhist inscriptions (Paranavitana 1970: Ins no. 78, 530, 534, 925 and 927) which advocate that Ajvikas or Jains have settled in Sri Lanka well before Buddhism arrived or else these names are common to all.

There is no second opinion that Buddhism/Jainism is introduced in Sri Lanka from India. There are quite a number of references to suggest that the Buddhist centres particularly Bhattiprolu and Amaravathi might have played a greater role in the continuous inflow of Buddhism in Sri Lanka. The sculptures (like Buddha, Bodhisattva and other panel sculptures) were made in these regions and exported to Sri Lanka (Wijesekara 1962). These sculptures are also found in northern Sri Lanka in places like Kandoradai, Vallipuram, Anuradhapuram, Madhavaram and Kuchchaveli (Pushparatnam 2004:35). Irrespective of these interactions not even a single inscription is found with a character of Bhattiprolu. It is widely believed that Bhattiprolu characters made some impact on orthography of Tamil-Brahmi script also. But till today not even a single letter with Bhattiprolu feature is found either in Tamil Nadu or in Sri Lanka. For that matter even one may say, it is not found anywhere in India other than Bhattiprolu. Though these letters have been devised at Bhattiprolu whether it received the recognition from other parts of the Indian subcontinent is a point to probe. It emerged at Bhattiprolu and survived for a shorter period and subsequently died. It is hard to say that Bhattiprolu made a greater impact in the orthography of other regions.

Likewise, there is a marked difference between the Asokan-Brahmi on the one hand and Tamil-Brahmi and Sri Lankan Brahmi inscriptions on the other hand. All Asokan inscriptions are basically edicts and entirely Buddhist in nature. Whereas the Tamil-Brahmi and Sri Lankan Brahmi inscriptions were issued by the people drawn from different segments of the society like local leaders, traders, chieftains and kings and are entirely donative in character. In Tamil Nadu, all the inscriptions either found on the stone beds or on

the brow of the rock-shelter were caused to be made to Jain monks. In Sri Lanka, all of them were engraved on the brow of the rock-shelter. The non-occurrence of inscription on the stone bed is due to the nature of religion that was followed in that region. Moreover the character, the shape of the bed and the place in which these inscriptions are engraved is identical to both Sri Lanka and Tamil Nadu. In addition to this, there are certain palaeographic similarities. The letters like *ma*, *i*, *ya* and *ra* are identical to both Tamil and Sri Lankan Brahmi. Further, one gets special characters of Tamil-Brahmi like *la*, *la*, *ra* and *na* in Sri Lankan Brahmi from early stage itself. We have not come across such positions in Asokan-Brahmi inscriptions.

If one sees the features of Tamil, Sri Lankan and Asokan Brahmi inscriptions, more relation could be witnessed in the former two inscriptions rather than with Asokan inscriptions. The Brahmi letters to represent Prakrit language found in Tamil Nadu are more akin to the one found in Sri Lanka rather than to Asokan Brahmi inscriptions. It shows the close cultural contact between Sri Lanka and Tamil Nadu. If one considers the geographical proximity, it is quite natural. These relationships clearly suggest that even before the arrival of Jainism in Tamil Nadu and Buddhism in Sri Lanka, the script and language might have been in existence and in usage. Further, it shows that even before Asokan times, the scripts are in usage in Tamil Nadu and Sri Lanka. The occurrence of large quantities of graffiti marks both in Sri Lanka and Tamil Nadu clearly points that the origin of the script lies somewhere in these two regions.

Mahadevan's view of introduction of Asokan-Brahmi script into Tamil Nadu needs to be examined based on recent evidences obtained in Sri Lanka and Tamil Nadu. Mahadevan feels that Brahmi script has been introduced in Tamil Nadu after Asoka (as he assigns 2nd century B.C. to the script) and Tamils developed certain scripts to use exclusively Tamil language (like *la*, *la*, *ra* and *na*). If this is the case, then we should get inscriptions exclusively using Asokan-Brahmi in the early strata and then inscriptions using both Tamil characteristic letters (after the development) and Asokan-Brahmi letters in the later strata. In this sense, Asokan-Brahmi was introduced in Tamil Nadu during the 3rd century B.C. and then it took some time to develop peculiar characters for the usage of Tamil language around 2nd B.C. This is the underlying meaning, which Mahadevan's hypothesis conveys. So far we

have not come across such situations either in Sri Lanka or in Tamil Nadu. The earliest inscription found in the rock inscription at Pulimankombai and Mangulam, the earliest inscribed Pandya coin Peruvaluthi and the earliest inscribed potsherd that was found at Kodumanal carry both the scripts used for Tamil as well as Prakrit language. Moreover all the early inscriptions have come from the southern part of Tamil Nadu rather than from the northern part. As the evidence stands today, the entry point is not from the north. One may feel that Brahmi script might have been introduced in some other media before introducing in inscriptions. It is true that this is also not in support of northern introduction. All the inscribed potsherds encountered in India concentrated in Tamil Nadu, Sri Lanka and coastal Andhra Pradesh. Among the three, Tamil Nadu predominates in its position. Inscribed potsherds are very rare or in negligible number in other parts of the country. In archaeological context, the early-inscribed potsherd comes from Sri Lanka and Tamil Nadu. Quite interestingly, all the special features like *ma* and *ra* and certain special characters representing *ja* and *sa* in Sri Lanka are found in the sites at Kodumanal, Arikamedu and Alagankulam in Tamil Nadu (Mahadevan 1994:1-19). Interestingly, all Asokan letters are not encountered in Tamil Nadu. Moreover, the ligatures represented in Asokan inscriptions are interestingly absent both in Sri Lankan and Tamil inscriptions.

Some of the inscribed potsherds end with *an* suffix to indicate masculine personal name. This surfaced at Mangulam and Kodumanal and also in Sri Lanka thereby indicating this form is Palaeographically, stratigraphically and linguistically earlier in date. Such identical inscribed potsherds have been discovered at Kandarodai and Anuradhapura (Coningham 1996:73-97). Besides these, *an* suffix is also found in inscribed coins collected at Akkurukoda in southern Sri Lanka reading Utiran, Tajapiyan, Mahacatta-an, Gapatigajapa-an, Tisapurasatanakarasan (Bopearachchi 1999). Some coins were also found at Kandoradai in Northern Sri Lanka reading Utipan or Utayan and Nagabhumi. Mahadevan feels that these coins are contemporary to the Pandya coin Peruvaluthi which has been dated by him to 2nd century B.C. (Mahadevan 2000:147-156). Mahadevan feels that the Tamil traders who immigrated to southern Sri Lanka might have issued it. However, one needs to observe a significant feature that Sri Lankan coins are round in shape whereas the Peruvaluthi coins are square. The

symbols that are found on the reverse of the coin are not encountered in Tamil coins. Generally, all the Tamil coins are issued by the kings as one we see in Peruvaluthi, Makotai, Makkokotai, Kolliporai and in Kuttuvan kotai coins. All the inscribed coins contain the royal *insignia* like fish (Pandya), tiger (Chola) and bow and arrow (Chera) on the reverse. Such coins carrying the *insignia* of Pandya dynasty have also been unearthed in northern Sri Lanka whereas the coins collected in southern Sri Lanka could not carry such symbols. It has its own symbols like peacock and flower motif. One may argue that the coins, which are having similar royal insignia, might have gone to Sri Lanka from Tamil Nadu but not the coin that is having different symbol and name. The coins collected in southern Sri Lanka carry the Tamil name with altogether different symbols like peacock, flower motif, etc. The names like Utiran, Tajapiyan, Mahacatta-an, Gapatigajapa-an and Tisapurasatanakarasan found in Sri Lankan coins are similar to the one found in the contemporary Brahmi inscriptions. Such types of names did not occur in Tamil Nadu. Based on these factors, Pushparatnam feels Tamil traders living in that area might have issued these coins. The associated coin moulds collected both from southern and northern Sri Lanka also support his view that these coins were issued in Sri Lanka itself (Pushparatnam 2002:33-69). Further, we hardly get any coin issued by the traders in Tamil Nadu. The Tamil names found in coins, potsherds and inscriptions suggest that these people were living in these regions even before 2nd century B.C. *Mahavamsa* refers to 32 Tamil kings living in southern Sri Lanka (*Mahavamsa* 25:75). The earliest issue of inscribed coins have been encountered in Tamil Nadu and Sri Lanka even before it has been issued in other parts of India. So, Mahadevan's view on these coins that they were issued by the immigrant traders needs to be reviewed.

The geographical entity of each region also needs a close look. One of the Brahmi inscribed coins found at Uduthurai in northern Sri Lanka carry the name Nagabhumi which is the traditional name given to that region by the Pali literature and later inscriptions repeat the same name as one found in the gold charter collected at Vallipuram (Paranavitana 1983:79-80). One of the inscriptions in Pudukottai while referring to this region interestingly refers as Nagabhumi (Pudukottai inscription 239:366). Sri Lanka is referred to with three geographical names as Tambapanni, Elam and Nagabhumi. The term Tambanpani finds its place in Asokan inscriptions but did not find its place either in

Tamil literature or in Tamil-Brahmi inscriptions. Instead it calls Sri Lanka as Elam. Whether both the terms Tambapanni and Elam stand for the whole of Sri Lanka or part of it and whether the name got converted into another is yet to be decided. However, one aspect is very clear that the settlements were in existence well before 3rd century B.C. The availability of the black and red ware phase well before the introduction of Brahmi script is revealed in a number of places particularly at Anuradhapura. The chronology of the Brahmi script has to be seen by taking into the consideration of all three important regions namely Tamil Nadu, India excluding Tamil Nadu and Sri Lanka in which the evidences show some similarity and dissimilarity.

Chronology

The Prakrit-Brahmi and Tamil-Brahmi inscriptions do not show any wider chronological gap that led to constant debate such as whether it moved from north to south or vice versa. In recent years, Sri Lankan scholars claim on the basis of Anuradhapura evidence that Brahmi script has been developed in Sri Lanka and moved from there to India through Tamil Nadu. All these contradictions are the result of the availability of the evidence within a short period of time throughout Indian subcontinent. It is true that these scripts would not have got such pan-Indian plane within a short time. But evidences are lacking credibly to prove this hypothesis. All the early inscriptions look alike and contemporaneous in nature and convincingly and chronologically it is very difficult to differentiate them. Nevertheless there is a ray of hope flickering in recent discoveries particularly in the one found at Anuradhapura in Sri Lanka and the other found at Pulimankombai and Kodumanal in Tamil Nadu. An attempt is made here to reassess the date of Tamil-Brahmi script in the light of recent evidences.

The inscriptions of Asokan times were predominantly written on stone and Buddhist in character. Unlike Asokan inscriptions, these scripts were found on stone, potsherd, seal, coin and ring made of gold, silver and copper in Tamil Nadu. Among them, the scripts engraved on stone and potsherds predominate. They were found uniformly throughout Tamil Nadu thereby showing its wider application. The earlier studies were basically confined to cave inscriptions and it is presumed, of course, based on the content of the inscription that the usage of Tamil-Brahmi script is confined to Jains. It is noteworthy that

till today not even a single Buddhist cave inscription is found in Tamil Nadu. This may be due to the nature of their abode. Unlike Jains, Buddhist monks did not reside in caves in Tamil Nadu. The available literary and archaeological vestiges also suggest that Buddhists mostly lived along the Tamil Nadu coast and actively involved in maritime trade whereas the Jains are mostly involved in internal trade. Leaving aside the cave-inscriptions, majority of them are secular in nature. Even the cave inscriptions do not carry any Jain philosophy but rather it conveys the grant made by the local elite to Jains. There is hardly any definite clue on the historical date in these inscriptions except the names of the kings that eludes to place any chronological anchor. The chronology of these inscriptions is fixed based on the palaeography, linguistic style, social structure, name of the ruler, geographical position and the relation between the literature and inscription. The geographical, chronological, linguistic, literary and archaeological dimension of these inscriptions prevented the scholars in venturing deep into this study.

In Tamil Nadu, the script is found on stone, metal objects like gold, silver and copper, coins and on ceramics. As per the literary evidences, it would have written on other perishable materials like palm leaves but evidence is lacking. Tamil-Brahmi script is found throughout Tamil Nadu and without any exception in all capital cities, port towns, trade centres and in prominent villages mentioned in the Sangam literature. The availability of the script even in the remote insignificant village sites like Mayiladumparai, Pulimankombai, Thathapatti and Teriruvveli advocates that this script is widely used in the society. However, there are certain variations in the usage of language. As noted above, all the cave inscriptions so far found are dedicated to Jains. Therefore the Prakrit words like *Dhamma* were frequently used in these inscriptions and some of the Prakrit words are Tamilised. But in other evidences, such linguistic dominations are rare. The inscribed stones of Pulimankombai and Thathapatti are raised for the heroes died in cattle raid. Most of the inscribed potsherds, coins and rings carry the personal name of the issuer or possessor. So one hardly gets any religious connotations in these label inscriptions. It is purely secular in nature. Recently, I. Mahadevan has painstakingly collected all the cave inscriptions and published them in his book entitled *Early Tamil Epigraphy: From the earliest times to the sixth century A.D.* Again one must keep in mind this book concentrates on the material of cave

inscriptions and it does not carry the material found on coins, seals, potsherds, ornaments and other objects, probably for want of time and space. Naturally cave inscription material had religious overtone particularly Jainism. The scholars of different disciplines like linguistics, archaeologists, literary people and historians are pointing out the merits and demerits of the book. The scholars drawn from different disciplines expressed their view in their own perspective and it is quite natural. Due to limited control over the date, the chronological aspect of the evidence is not discussed at length. The date is crucial to determine the nature of the society and its relation with other regions. To understand the various social factors like state formation, urbanisation, social structure, inter and intra region relationship, trade technology and other related parameters, the date stands very crucial.

Thus, an attempt is made here to analyse the date of the Tamil-Brahmi script based on the stratigraphical position of script. The archaeological stratigraphy has one advantage than all others. The inscribed potsherds or coins or any other artefacts that are found in successive undisturbed cultural layers could be dated relatively based on the principles of stratigraphy. The layer on the top is considered younger than the layer that is found below. Thus, a succession of layers would provide a relative chronological sequence from earliest to latest. Any cultural material found in the layers can be dated relatively younger and older based on from which layer the particular artefact is recovered. The orderly placed artefacts recovered from stratified layers would help to classify them in certain chronological order. Thus, in a stratified layer one can easily identify the appearance or disappearance of a particular script, the palaeography and orthography changes of the script and any other structural changes. This could be identified in sequential order. The inscribed potsherds recovered from Kodumanal are analysed on the basis of stratigraphical sequences. Before divulging into the date of Kodumanal findings, let us have a cursory look on the date of Tamil-Brahmi script provided by I. Mahadevan.

I. Mahadevan brought all the inscriptions within three following chronological phases.

The Early Period	2nd century B.C. - 1st century B.C.
The Middle Period	1st century B.C. - 2nd century A.D.
Late Period	3rd century A.D. - 4th century A.D.

The chronological table explicitly suggests that the earliest Tamil-Brahmi script has been dated to 2nd century B.C. If one says in chronological point of view, it may fall anywhere between 199 B.C. and 100 B.C. The scholars may place the material anywhere between these two extremes bases on the merit of their evidence and on their own perception. I. Mahadevan has dated the inscription based on palaeographical ground as the stratigraphical evidence is lacking in cave inscriptions. There are certain difficulties in placing various cultural materials that were unearthed in different archaeological sites in a broader cultural sequence. An attempt is made here to place the available material before the scholars and to highlight the difficulties one has to face in the archaeological study if one accepts the date of 2nd century B.C. The main focus in the present chapter is to understand the chronology of Tamil-Brahmi script in the background of archaeological stratigraphy though other aspects are not altogether neglected. Before going into the archaeological stratigraphy of a particular site, it is always desirable to have a broad view on the nature of stratigraphy and its cultural association that was encountered in Tamil Nadu.

Archaeological Stratigraphy

In archaeological studies, making of stratigraphic sequences and their periodization are the most important tasks for any excavator. The stratigraphy still holds its centre stage in the archaeological interpretations even after the introduction of many scientific dating methods. It reflects the reliability to some extent. The character of stratification of a particular archaeological site will depend upon the historical and cultural circumstances in which it was created. Besides these two issues, geological and environmental factors played a greater role in the formation of archaeological sites. So, it is difficult to define or bring to the fore all archaeological sites in a single fold. As far as Tamil Nadu is concerned, it is assumed that the cultural sequences occurred in the order of palaeolithic, Mesolithic, Neolithic, Iron Age (megalithic), early historic and historic. This cultural order is based on excavations that had been conducted in the Paiyampalli, Appukallu and Mayiladumparai falls in this cultural sequential order (Rajan 2004:74-89). But recent excavations conducted at Mangudi and Teriruvelli show a different cultural order. In these two sites, the Iron Age (black and red ware) phase superimposed on microlithic phase.

Based on excavations conducted in different ecological zones of Tamil Nadu by various agencies like Archaeological Survey of India, University of Madras, Tamil Nadu State Archaeology Department and Tamil University, one may place the stratigraphical position of the various cultures in two different broad cultural orders. In the northern part of Tamil Nadu, the cultural sequence falls in the following order: microlithic, Neolithic, Iron Age (megalithic) and early historic whereas in southern Tamil Nadu it falls in the order of microlithic, Iron Age and early historic. One should bear this cultural order in mind while dating the archaeological findings. Further, one must also keep in mind that the Iron Age phase in Tamil Nadu has been labelled as Iron Age, Megalithic and Black and Red ware. The transition from one phase to another is uniform and smooth without any cultural break. Now it is bit clear that the black and red ware and Iron Age graves are independent in its origin and in a few places the sequence suggests that black and red ware are earlier than megaliths.

In Tamil Nadu, almost all recently excavated sites with early historic cultural phase yielded Tamil-Brahmi inscribed potsherds. The occurrence of inscribed potsherds from the Iron Age cist at Kodumanal suggests that the people continued the ritual of burying the dead in chamber tombs even after entering into the early historic phase from Iron Age phase. The Sangam literary evidences also attest this phenomenon. However, placing the Iron Age and black and red ware phase in definite chronological frame eludes the scholars due to limited exploration and excavation.

The most important factor that hindered in placing the Sangam Age in a well chronological frame is of the Iron Age monuments. The long survival of these monuments for about thousand years between 1000 B.C. and 100 B.C. restricted the scholars to place this culture in a specific cultural context. Bringing the monuments of non-Iron Age in nature like urn burials that found without any lithic appendage into the Iron Age fold has further aggravated the problem. The urn burials found south of Vaigai river valley particularly in the coastal plains as one observed at Adichchanallur are mostly devoid of Iron Age influence but still these were unscrupulously placed in the Iron Age horizon, as they were burials. Therefore it is time to see the data in its geographical and chronological background. These monuments were passed from black and red ware phase to early historic times. Secondly

these were practiced in capital cities, trade centres, port towns, etc. in advanced stage both in content and quality. For instance at Kodumanal, the Iron Age cist yielded potsherds with Tamil-Brahmi script along with the antiquities of other regions (Rajan 1996:72-86). The Sular grave yielded punch-marked coin struck at Eran (Beck 1930:166-182). It is noteworthy to recall the bronze seal with two-line script collected from a burial at Anaikottai in Jaffna Peninsula (Raghupathy 1987:200-202). All these denote continuity of the custom of erecting Iron Age monuments in early historical period. At the same moment some contemporary monuments with same superficial identity found in isolated regions were rudimentary in nature. Majority of the reports just identify the burial complex only on the surface observation. These led to the scholars to mix up, though unintentional, the earlier date with the later one. It is very difficult to give any concrete chronological frame to the monuments on the basis of superficial observations. The intrusion area and the terminal area had wide chronological implications though they look alike on the surface. There is an enormous difference in the surface observation of a burial and the excavated one. The classification of the burial based on surface observation has its own limitations. The lack of firsthand information on the geographical position of the burial hinders enormously to draw a clear picture about the megaliths. Irrespective of these problems, one may presume based on the data collected from the recent explorations and excavations that Iron Age people were basically cattle raisers around 1000 B.C. and probably with a rudimentary agriculture, a spill-over of Neolithic. They migrated quite often in search of pastureland. The limited availability of the habitation-cum-burial sites can be understood in this background. Even the available settlements are small in nature when compared with their burials. During this time, it seems they did not have any categorical territorial affiliation. In the second stage (c.600 B.C.), they moved on to full-fledged agriculture. In this stage, they became settled people, clan-based society emerged, exploitation of minerals and ores culminated, industrial activities intensified, specialized craftsmanship developed, script developed or the earlier one got modified, trade routes were formed in the potential agricultural and mineral zones, various religions took a shape and literature proliferated.

Likewise, urn burial also needs some attention. Urn burials are concentrated in delta regions, in coastal plains and in the interior part of Tamil Nadu, particularly in the region south of Kaveri. In the coastal

plains, they are devoid of any lithic appendage whereas in the interior part of Tamil Nadu they are found in association with other burial practices. The people occupying different regions were ethnically, linguistically and culturally similar to the people practising Iron Age burial. They used the same language and script. At no point of time the literature differentiates them. The urn burials are indigenous and probably earlier to Iron Age monuments as the latter were intruded into Tamil Nadu from the north. The recent Mangadu excavation of an urn burial site in the Kollam District of Kerala State yielded the radiocarbon date (2890 ± 70 and 2859 ± 90 BP) of first millennium B.C. (Satyamurthy 1992:9-10). The radiocarbon date of 785 B.C. got from the excavation at Korkai, a Pandya port on the mouth of Tambraparani, needs a close look now as this lies in urn burial zone lying closely in the same latitude (Majeed 1987:73-77). This site lies east of Adichchanallur, a famous urn burial site. Therefore placing the urn burial in the same time bracket is unwarranted. It is quite possible to consider these urn burials were earlier to megalithic. Lack of intensive explorations and selective excavations in the urn bearing zones restricted our understanding.

So, the late phase of black and red ware or Iron Age had distinctive historical moorings. This transformation could be seen in their social parameters like language, script, trade, technology, etc. The above analyses suggest that fixing the early historic archaeology of Tamil Nadu is not due to the non-availability of the data but rather understanding the data in the right perspective. One must see the development of political units under these circumstances. Keeping these contextual situations in mind, an attempt is made, though in a modest way, to understand the stratigraphical position of the inscribed Tamil-Brahmi potsherds in Tamil Nadu.

In Tamil Nadu, all the archaeological sites yielding early historic cultural deposit invariably start with 3rd century B.C. and ends with 3rd century A.D. The fine examples are Uraiyr, Teriruvēli, Mangudi, Kodumanal, Korkai, Karur, Vallam, Tirukampuliyr, Alagankulam and a host of other sites. These sites yielded Tamil-Brahmi inscribed potsherds. The date of 3rd century B.C. is given to all these sites irrespective of the amount of cultural deposit with the presumption that Brahmi script is introduced in Tamil Nadu during or after Asoka. If it is introduced in Tamil Nadu from north, then sites in northern Tamil

Nadu should be earlier in date. In contrast to this, the entry point and terminal point has been dated uniformly. It implies that Tamil-Brahmi script has been introduced at a single stroke the whole Tamil Nadu. Now, I. Mahadevan revised the date to 2nd century B.C. based on palaeography, orthography and linguistic style of the inscription. If one takes this recent date into account, then one has to revise all the dates of the archaeological sites mentioned above to 2nd century B.C. Accepting this date poses a new problem in understanding our cultural process. To understand this problem in a wider perspective, a re-look of all the inscribed potsherds is recovered from the archaeological stratigraphy, particularly Kodumanal stratigraphy, is made.

Nearly 204 Tamil-Brahmi inscribed potsherds (172 by the Tamil University and remaining 32 by the State Archaeology) in the six seasons of the excavations have been recovered which constitute less than 1% of the excavated area. Of these, nearly 92% came from the northern part of the habitation mound. The inscribed potsherds were recovered throughout the cultural deposit. In 50 acres of habitation (about 20 hectares/2,00,000 sq.m.), 1,200 sq.m. area has been excavated which constitutes 0.6% of the total area. In less than 1% area, we could collect more than 200 inscribed potsherds. If the remaining area is exposed, one could have got more than 20,000 inscribed potsherds. This quantified assessment is provided to understand the enormity of the situation as well as the level of literacy. This is not unique to Kodumanal alone, this state of affairs also repeated in other sites like Karur,*the capital of Cheras.

Mahadevan classified the features of the Tamil-Brahmi inscriptions into TB-I, TB-II and TB-III based on the media vowel notations and the occurrence of *pulli* to indicate basic consonants. In the TB-I, the diacritical mark placed on the basic symbol would stand for both inherent long and short vowel. For instance, in the word *caa-t-ta-n* vowel consonants of the long *caa* and short *ta* carry the same diacritical mark to represent both long and short vowel. The consonant *t* did not carry any diacritical mark. So the basic symbol represents consonants. Based on the statistical analysis, Mahadevan suggested that TB-I occurs in larger quantity in the beginning of 2nd century B.C. and slowly decreases in the course of time and totally disappears from the scene by the end of 1st century B.C. According to him, TB-II occurs from the beginning of 1st century B.C. The TB-III variety came into

existence in 2nd century A.D. (Mahadevan 2003:232-233). He felt that TB-I and TB-II were parallel and independent developments from the Mauryan-Brahmi script (Mahadevan 2003:231).

Though he concludes that both the systems are parallel and independent, the Asokan inscriptions do not carry the TB-I writing system. Asokan inscriptions followed the improved version of TB-II writing system. If the Tamil-Brahmi has developed from Asokan-Brahmi, then they would have taken directly the improved version of TB-I writing system followed in Asokan inscription rather than devising a new complicated TB-I writing system. Further, how the complicated system of TB-I, which is not prevalent in Asokan inscription, came in 2nd century B.C. and the improved writing system TB-II followed in Asokan inscription came in 1st century B.C. to Tamil Nadu has not been explained adequately. If one considers that TB-II came from Asokan-Brahmi, then we have to give proper explanation about wherefrom the TB-I writing system evolved. This writing system is not found anywhere in India except in Tamil Nadu. Then one has to content with the hypothesis that it is native to Tamil Nadu.

At Kodumanal, the TB-I and TB-II variety is found throughout 2.00 m. cultural deposit. According to Mahadevan's dating, it would fall within the time range of 2nd century B.C. and 1st century B.C. If we accept this date, the whole cultural deposit would fall within the time span of hundred years. The occurrence of graffiti marks, Brahmi letters, russet coated ware, carnelian and agate beads, iron objects like swords and arrow heads, the east-west orientation of the skeletal remains, pottery types like ring-stands, plates and bowls, iron slag found mixed with cairns both in the habitation and burial clearly establishes the relation between the habitation and Iron Age burial. Then, one needs to place the whole burial complex also within the range of hundred years. There are nearly 150 cairn circles entombing cist burial spread over an area of 100 acres. The number of graves is only an indicative of what remains today after 2000 years of destruction. The size and the amount of grave goods like thousands of carnelian beads, bronze objects, gold ornaments, hundreds of pots, iron objects, etc., placed inside the cist clearly indicate that the burials were not raised to all the members of the society. Only elite people or to the people who performed good things to the society would have been venerated in such burials. The occurrence of urn burial in the burial complex and pit

burial in the habitation with very meagre amount of grave goods that too only few pots also supports this view. Further, the study carried out by S.R. Walimbe and Veena Munsif on the thirteen skeletal remains recovered from the cists suggests that the maximum life span of the people is 35 years. Keeping all these data in mind, it is very difficult to presume that within the span of hundred years, so many elite people would have existed or died. The situation is not much different in other sites too. If we accept the date of 2nd century B.C., then at Mangudi, the microlithic phase exists prior to this date. On the whole, one has to content with the idea that the Neolithic and microlithic is alone prevalent in Tamil Nadu prior to 2nd century B.C. Even if we accept this date of Mahadevan, one has to answer pertinent questions like how and when this nomadic people learned the art of engraving the script, language, the advanced state of iron and steel technology, trade, etc. If they are in nomadic or semi-nomadic stage, then why king Asoka considered them as recognisable kingdoms. He places the four Tamil kingdoms, namely Cheras, Cholas, Pandyas and Satiyaputras along with the Yavana king who ruled outside this domain in 3rd century B.C. Moreover, there are certain scripts exclusively to represent Tamil language like *la*, *la*, *ra* and *na* and the special letter *ma*. These scripts are found almost from the lowermost level. Then, one has to answer the pertinent question who has developed these scripts and when? Therefore, I. Mahadevan's date of 2nd century B.C. is quite contradictory to the existing evidence and needs to be thoroughly revamped based on the available evidence.

The date and origin of the script in Tamil Nadu are still under scrutiny. A bulk of evidence is placed far against its origin and date. All the inscriptions were dated to 3rd century B.C. onwards with the assumption that Asoka introduced the Brahmi script in Tamil Nadu. However, a few scholars attempted to revise the date on the basis of archaeological stratigraphy and radiocarbon dates. Coningham (1996:73-97), Kasinathan (1995), K.V. Ramesh, M.D. Sampath, K.G. Krishnan and K.V. Raman (1976:64-65) felt that Brahmi is pre-Asokan and entered into Tamil Nadu from Sri Lanka. Siran Deraniyagala also holds the same view (Deraniyagala 1992:739-750). Nearly all of the early Brahmi inscriptions that are found in the northern part of India are Asokan edicts. These were issued in the interest of the state and were engraved on stones as an official order. Other than Asokan edicts, the occurrence of these Brahmi scripts is very limited. Even the

contemporary punch-marked coins do not contain any script. The bulk of excavated sites in Gangetic plain fail to yield any remarkable usage of the script on any media. Whether this scenario indicates that the script is only patronised by the official body, is yet to be assessed. In contrast to this scenario, the common man in Tamil Nadu engraved Tamil-Brahmi scripts. At Kodumanal, the inscribed potsherds were found from the lowermost level and the most conservative date goes to 4th century B.C. It is to be observed here that this date (4th century B.C.) too is given based on Mahadevan's classification and with the widespread presumption that no script existed before third century B.C. Even if one considers the date of 4th century B.C. to the potsherd collected from the lowermost level, still one has enough data to reckon with the date. The lowermost level potsherd had the scripts peculiar to Tamil characters like *l*, *ḷ*, *ṛ* and *ṇ* and in addition distinctive palaeographic shape for letter *m*. Besides, there is an omission of voiced consonants, aspirates and sibilants in Tamil-Brahmi (Mahadevan 1995:173-188). This phenomenon is not confined to the Kongu region alone but it is found throughout the state and in Jaffna peninsula of Sri Lanka. The evolution and uniform adoption of this peculiar script would have taken considerable time if one considers its widespread area. It implies that the introduction or evolution or origin of script in Tamil Nadu might go well beyond 4th century B.C. The uniformity of the script suggests the level of literacy rate that prevailed during 4th century B.C. I. Mahadevan adequately expressed the position of literacy in Tamil Nadu (Mahadevan 1995:173-188). Inscriptions and inscribed potsherds that are found without any grammatical or syntactic error strongly emphasise the level of knowledge attained by the common man in the usage of script and language. If this could have all happened in 4th century B.C. uniformly throughout Tamil Nadu then the script would have introduced well before 4th century B.C. The uniform spread and mixture of Prakrit words also indicate the existence of cultural contact and a well-established state in Tamil Nadu prior to this period. Though the Asokan edicts did not specify any king's name who ruled beyond his dominion in the south, the Mangulam inscription provides the name of the Pandya king Nedunjceliyan. The recent occurrence of an inscribed copper coin with the name Peruvaluthi (the Pandya king) on the obverse and fish symbol on the reverse is to be recalled here. This coin is dated to 250 B.C. (Krishnamurthy 1997:23). Some arguments were put forth that the status of the Greek king is articulated so the title also

provided as *raja*. While referring border states of the south, Asoka refers the name of dynasties rather than name of the king which probably resulted in the absence of using the title *raja*. But this is only an assumption. Of the four states, the dynastic rule of Satiyaputo has not been identified for long. This controversy was also put to rest by the discovery of Jambai inscription. The Jambai inscription put the end to the arguments in identifying the dynasty *sataya* with the *atiyan* dynasty (Nagasamy 1981). Even the less celebrated dynasty like *satiya* finds a place in Asokan edicts. This clearly indicates that by the time of Asoka, the territorial affinity attached to each dynasty might well have been established. The recent explorations conducted in the Adiyaman Neduman Anji ruled region of Tagadur (Dharmapuri district) are met with large number of settlements in close vicinity of 5 km. radius. Some sites had 50-acre habitation mounds and nearly 1000 undisturbed Iron Age burials. The size of the mound and burial ground clearly suggest that this site would have been occupied for a long period. The cultural material suggests that the cultural transformation from Iron Age to early historical phase has taken place without any break and of course, with continuity of burial practice in early historic times. The most interesting and important point to be observed here is that the king belonged to the Satiyaputo (Adiyaman) dynasty mentioned in Asokan edict was in fact buried in Iron Age cist having a menhir. Just because he was buried in Iron Age cist (*Purananuru* 232), one need not claim that he belongs to Iron Age. At the same time, it is also not desirable to push beyond the terminal phase of the Iron Age phase. Asokan edict, Jambai Tamil-Brahmi inscription and the availability of silver punch-marked coin in his territory at Navalai stands as a valid proof to suggest that there was a well-established state in 3rd century B.C.

It is now imperative that the combined study of archaeological, epigraphical, numismatic and literary evidence alone can provide a better vision on the past. As stated above, if one takes the Tamil-Brahmi cave inscriptions alone, then one may be trapped in a view that there was no inscription other than that of Jains. Likewise if one takes the inscribed potsherds alone then one may feel that there was no religion at all. In the same way, one does not come across any stone inscriptions in Chola territory due to the non-availability of the stone. But inscribed potsherds that are found in the excavations at Kaveripattinam, Uraiur, Vallam and Tirukampuliyur clearly suggest that this region is not much different from other regions. This can be

also put in another way. The Cholas, it seems, did not patronize Jainism but instead they patronized Buddhism. The available literary and archaeological evidences suggest that the inland trade was under the influence of Jains whereas the maritime trade was with Buddhists. All the Jain inscriptions and Jain centres were found on the inland routes or near the inland trade centres. It seems Jains were economically more powerful than Buddhists and wielded greater influence on Tamils. Latter-day outburst against Jains by Hindus may be due to their economic power, which the rulers wanted to alter in their favour.

Nearly 300 inscribed potsherds were unearthed in sixteen archaeological sites throughout the length and breadth of Tamil Nadu with high degree of uniformity. It proves that different strata of the society, both rural and urban, used the Tamil-Brahmi script. The Sangam literature calls the land north of Tamil country as *moli peyar teyam* (other language-speaking area) (*Akananuru* 31; 27; 295). In conformity with this statement, the inscriptions that are found in Andhra Pradesh and Karnataka State are in Prakrit but again that are not in Telugu or Kannada. However the recent linguistic study clearly suggests that the language used by the common man was Telugu and Kannada (Krishnamurthy 1994:163-165). This phenomenon continued till 6th century A.D. It would have been in the interest of the ruling elite to protect their privileges by perpetuating their hegemony of Prakrit in order to exclude the common people from sharing power (Mahadevan 1995a:173-188). The Pallavas in Tamil country also adopted the same method. They used Sanskrit language and Pallava grantha scripts in their official orders. Whereas the native language and script were Tamil and *vattēluttu* script (a script evolved from Tamil-Brahmi) as indicated by the contemporary hero stones and other non-Pallava inscriptions. Unlike in the adjoining regions, not even a single exclusive Prakrit inscription is encountered in Tamil Nadu. The non-dominance of Prakrit in Tamil country conclusively denotes the language of the region was Tamil. The main reason for this contrast development between these two regions appears to be the political independence of the Tamil country. Such level of literacy would not have been attained without a well-established state. The occurrence of Tamil-Brahmi inscriptions at Pugalur (Chera) and Mangulam (Pandya) (Mahadevan 1968:57-73) and the portrait coins with the king's name like Peruvaluthi, Kolliporai,

Makotai and Kuttuvan Kotai (Krishnamurthy 1997:23) clearly denotes the well-established state in Tamil country.

The content of the Tamil-Brahmi inscriptions noticed on coins, rings and on pottery throughout the Tamil country is secular in nature. This evidence is unique and special in the sense that the Asokan inscriptions were found throughout the country but they were all executed on the king's order and were Buddhist in character. The inscribed potsherds found in the lowermost level at Vallam, Alagankulam, Uraiyr, Karur, Kodumanal, etc. show that this script was known to them as early as 4th century B.C. In all probability, the common man should have learnt this script well before this date as all the available forms are in well-developed stage both Palaeographically and grammatically. At the same moment, one point needs to be emphasized here that they also know the letters of Prakrit like *sa* and *da*. Few non-Tamil names also Tamilised like *kubira* into *kuvira*. Besides the personal names, the availability of the punch-marked coins, beads made of carnelian and lapis lazuli suggest their contact with the rest of the world.

A special mention is needed to record on cultural contact with Sri Lanka. Irrespective of the geographical proximity and close social, religious and trade contacts the Prakrit inscription is surprisingly absent in Tamil Nadu. However, the literary and epigraphical evidences show their contact. The diagnostic linguistic features like the genitive suffixes *-sa* and *-ha*; shortening of long vowels; de-aspiration of aspirates and unique change of *ja* to *jha* found in the seven inscribed potsherds collected at Arikamedu, Alagankulam and Kodumanal in Tamil Nadu are known to Sri Lankan Prakrit only (Mahadevan 1995:55-65). The occurrence of *Ilakudimpikan* (householder from Ilam (Sri Lanka)) in Tamil-Brahmi inscription at Tirupparankunram in Tamil Nadu (Mahadevan 1968:57-73); *Ilattu unavu* (food item from Ilam) found in Sangam literature *Pattinappalai* (191) and the findings of Tamil-Brahmi script bearing potsherds like *velan*, *vel*, *ila* at Mannitalai, Paramankiray and Vettukkadu by Pushparatnam in Poonagari region and at Kantarodai by S. Krishnarajah in Jaffna (Pushparatnam 1993:30-42; Mahadevan 1994) and Tamil inscribed coins with personal names like Kapati Katalan, Utiran, Malla Cattan found in Ruhuna region of southern Sri Lanka (Bopearachchi 1999, pl. 47: 1-4; Mahadevan

2000:147-156) conclusively express the contact between Sri Lanka and the Tamil country. The spread of language and script even before 4th century B.C. through a well-established port like Korkai, Alagankulam, Kaveripattinam and Arikamedu denote that these ports were under the control of the well-established state.

The above discussion points to the difficulties faced by the scholars working in different disciplines in bringing or understanding the available sources in the right perspective. The limited exploration and controlled excavation with clear objectives in potential geographical zones prevent us from giving a clear picture on the entire segment of the evidence. However we hope that future studies and findings would solve this problem to the satisfaction of all stake-holders.

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PHONOLOGY OF BORROWED WORDS IN KHASI

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Abstract

*The present paper examines the phonological changes that have taken place in the borrowed words from Indo-Aryan languages and English in Khasi. Khasi has borrowed hundreds of words from Indo-Aryan (IA) languages like Sylheti (a variety of Bengali spoken in the neighbourhood), Assamese, Hindi, and also from English. There are more than a thousand borrowed words from IA languages, and a couple of hundred words from English. The English words/expressions, especially technical/administrative terms (e.g. *histori* 'history', *phlim* 'film', *kolej* 'college', *skul* 'school', *ophisar* 'officer', etc.), are still being borrowed freely. Borrowing in Khasi is not "gratuitous". It borrowed only those words/terms for which it did not already have stock. In the process of adaptation, these borrowed words have undergone considerable phonological changes, viz., epenthesis, metathesis, word-final devoicing, deaspiration, cluster simplification, elision, trillation, haplology, vowel harmony, etc. Some words also show semantic changes. Phonological rules for some of the processes have been formulated, and some examples of interaction of rules and derivation of words have also been provided.*

1. Introduction

The Khasi language belongs to the Mon-Khmer branch of Austro-Asiatic family of languages and is spoken in Meghalaya by 1,128,575 persons (Census of India, 2001).

Khasi has borrowed words from Indo-Aryan (henceforth referred to as IA) languages like Sylheti (a variety of Bengali spoken in the neighbourhood), Assamese, Hindi, etc. and also from English

(henceforth referred to as E). U. Nissor Singh identifies about 500 words as borrowed-about 450 from Assamese, Bengali and Hindi, and about 50 from English and Arabic. But, in reality, there are more than a thousand borrowed words from IA languages, and more than 200 words from English (e.g., *cake* [kēk], *bus* [bOs], *station* [steshOn], *bom* (<bomb), *doctor* (<doctor), *cancer* [kansOr], *tiket* (<ticket), *phone* [phon], *block* [blOk], *local* [lokal], *skul* (<school), *ophis* (<office), *pulit* (<police), *taksi* (<taxi), *sikret* (<cigarette), *seat* [sīt], *rel* (<rail), *phut* (<foot), *bill*, *kaset* (<cassette), etc.) are used by Khasi speakers in day-to-day life. The English words/expressions, especially technical/administrative terms are still being borrowed freely. Instead of creating/coining new technical terms/expressions, Khasi keeps borrowing from English, and thus we find hundreds of technical terms (the Khasi words/expressions in the introduction section are presented as they appear in written form in Khasi newspapers, etc.) like *students' union*, *chairman*, *secretary*, *parliament*, *party/parti*, *advertisement*, *result*, *check*, *kommiti* (<committee), *kilometre*, *run*, *wiket* (<wicket), *elektrik* (<electric/electricity), *model*, *actress* (<actress), *hospital*, *surrender*, *conference*, *8th schedule*, *address*, *building*, *earnest money*, *applai* (<apply), *batsman*, *entry form*, *player*, *registration*, *referee*, *machine*, *grammar*, *paragraph*, *poitri* (<poetry), *part time*, *full time*, *council*, *konstitwensi* (<constituency), *caste certificate*, *kabinet* (<cabinet), *salute*, *estimate*, *degree*, *seminar*, *engineer*, *outpost*, *formula*, etc. used in both written and spoken Khasi.

Although the Khasi speakers have had a long interaction with Sylheti (Bengali), Nepali and Hindi speakers (from Bihar and Uttar Pradesh), their speech seems to have been influenced more by the Sylheti (Bengali) speakers which can be seen in words like *doi* (Hindi *dahī*) 'yoghurt', *kubī* (and not *kobī* < Hindi *gobhī*) 'cabbage', *rī* (and not Hindi/Bhojpuri *sem/sīm*) 'bean', *musla* (< Sylheti *māsla* (and not < Hindi *māsala*) 'spice', *pakha* (< Sylheti *pakha*) 'fan' (and not < Hindi *pāṅkha*), *rutī* (< Sylheti *ruṭī*) 'bread', etc.

In the process of adaptation, these borrowed words have undergone a number of phonological changes, viz., epenthesis, metathesis, devoicing, deaspiration, cluster simplification, elision, haplology, vowel harmony, etc. Some words also show semantic changes (e.g., IA *ata* (Khasi *atta*) 'flour' means '*chapatti*' 'Indian bread', IA *jila* (Khasi *jylla* [jilla]) 'district' means 'state', *baje* 'o'clock' means

‘clock/watch’ in Khasi). Many of the words borrowed from English have also undergone orthographic changes (e.g., college → *kolej*, programme → *prokram*, computer → *kompwitor*, actor → *aktor*, drug → *drok*, culture → *kolshor*, company → *kompeni*, scheme → *skhim*, film → *phlim*, scientist → *saintis*, diamond → *diamon*, sentence → *senten*, district → *distrik*, license → *laisen*, politics → *politik*, record → *rekod*, nuclear → *niwkliar*, application → *aplikeshon*, project → *projek*, accident → *aksiden*, goal → *kol*, contract → *kontrak*, television → *telibishon*, etc.

Most of the borrowed words belong to the category of noun, but one can also find some borrowed adjectives (e.g., *pura* (IA) ‘full/complete’, *thok* (IA) ‘fake’, *thik* (IA) ‘correct’, *beaiñ* (IA) ‘illegal’, *suk* (IA) ‘happy’, etc.), adverbs (e.g., *bar* (IA) ‘out(side)’, *kha-ma-kha* (IA) ‘unnecessarily/in vain’, *hOrkit* (< IA *hərgiz*) ‘in no case’, etc.), verbs (e.g., *puraw* (< IA *pura-*) ‘compensate/recoup’, *lute* (IA) ‘plunder’, *nujOr* (< IA *nəjər dāl-*) ‘scrutinize’, *map* (IA) ‘forgive’, *rakhe* (IA) ‘observe/celebrate’, *batai* (IA) ‘tell’, *hikai* (< IA *sikha-*) ‘teach’, *pathai* (< IA *pəṭha-*) ‘send’, *kubur* (< IA *kəbul*) ‘confess/admit’, *mynjur* [*mɪnjur*] (< IA *mənjur*) ‘agree’, *pass* (E) ‘pass (an exam)’, *off* (< E. switch off), *phone* (E) ‘make a phone call’, etc.), and even emphatic particle (e.g., *hī* (IA)).

Almost all the borrowed words are treated as feminine in Khasi (and take the feminine article *ka*). The exceptions (masculine words which take the masculine article *u*) include *u bOm* (< E. bomb), *u number* (< E. number), *u stabilizer* (E), *u line* (E), *u shabi* (IA) ‘key’, *u kulai* (IA) ‘horse’, *u drok* (< E. drug), *u sikret* (< E. cigarette), *u atta* (IA) ‘chapatti/Indian bread’, *u cake* (E), *u atoshkhana* (IA) ‘chimney’, *u roket* (< E. rocket), *u meter* (E), *u bilor* (< E. bottle ?), *u khulOm* ‘pen’ (< IA. *kəlOm*), *u khejur* ‘date fruit’, *u jhur* ‘vegetable’, *u luta* ‘brass cup’, *u budam* (E) ‘button’, *u khir* (< IA *khil*) ‘screw’, *u prek* ‘nail’, *u ruṭi* ‘loaf’, *u dak* (< IA *dag*) ‘mark, sign’, *u iṭ* ‘brick’, *u piat* (< IA *piāj*) ‘onion’, *u piskOt* (< IA *peē ckas*) ‘screwdriver’, *u pita* (< IA *phita*) ‘tape/ribbon’, *u rynsun* [*rɪnsun*] (< IA *rasun*) ‘garlic’.

2. Phonological Processes

2.1. Cluster simplification

Khasi does not allow word final consonant clusters; hence a consonant cluster at the end of a borrowed word is simplified.

$C \rightarrow \emptyset / C - \#$

benc (E) \rightarrow *ben* 'bench'

kæmp (E) \rightarrow *kem* 'camp'

tost (E) \rightarrow *tos* 'toast'

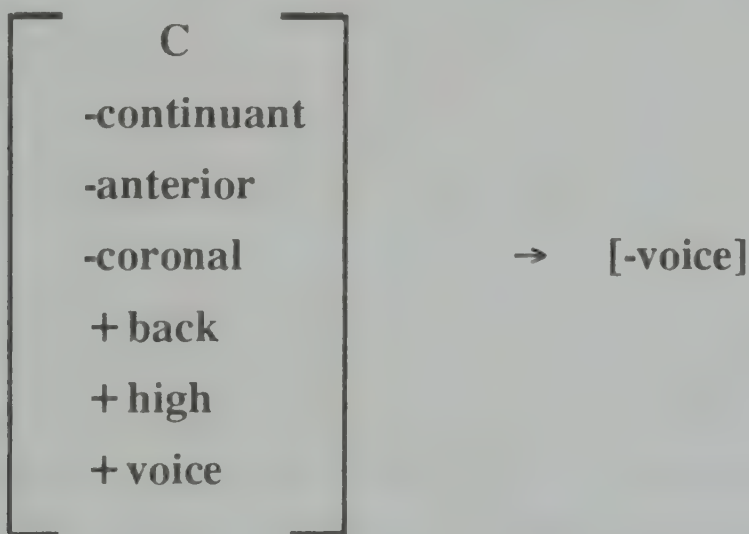
district (E) \rightarrow *distrik* 'district'

dOrkhast (IA) \rightarrow *dOrkhat* 'petition'

(*dOrkhast* > *dOrkhas* > *dOrkhat*)

2.2. Devoicing

(i) Khasi lacks voiced velar stops /g/ and /gh/. Hence, /g/ and /gh/ are realized as voiceless velar stops /k/ and /kh/ (word final /kh/ changes to /k/ by another rule) in borrowed words.



gajor (IA) \rightarrow *kajOr* 'carrot'

ghī (IA) \rightarrow *khī* 'clarified butter'

gulī (IA) \rightarrow *kuī* 'pill'

grep (E) \rightarrow *krep* 'grape'

(ii) Word final /b/ and /d/ are realized as /p/ and /t/ respectively. Thus:

təlOb (IA) \rightarrow *tulOp* 'salary'

nāsib (IA) \rightarrow *nusīp* 'luck, fate'

sūd (IA) \rightarrow *sūt* 'interest'

miad (IA) \rightarrow *miat* 'period of time'

C

-continuant

+ anterior

-high

-back

+ voice

→ [-voice] / – #

2.3. Vowel harmony

In bi-/tri-syllabic words the high vowel of the final syllable affects the vowel of the previous syllable(s) which has the same height but may or may not have the same lip rounding.

- bætrī (E) → bitrī ‘battery’
- pərī (IA) → purī ‘fairy’
- nehu → nihū ‘an acronym for North Eastern Hill University’
- telī (IA) → tilī ‘oilman’
- hešu → hišu ‘Heshu (name of a man)’
- rObi-bar → rubi-bar ‘Sunday’

2.4. Fricativization

Khasi lacks the voiceless palatal stops and affricates. Hence, /c/ and /ch/ are realized as /š/ in the IA borrowed words.

C

-continuant

-voice

-anterior

+ coronal

→ [+ continuant]

- cīnī (IA) → šini ‘sugar’
- cithī̄ (IA) → šithī ‘letter’

chuṭī (IA) → *šutī* 'leave/holiday'

cabī (IA) → *šabī* 'key'

ca (IA) → *ša* 'tea'

2.5. Raising

If the low front vowel /æ/ and the mid central vowel /ə/ occur in the first syllable of borrowed words, they are raised to /e/ and /u/ respectively (almost always).

pænt (E) → *pent*^ɪ 'pants'

bæg (E) → *bek* 'bag'

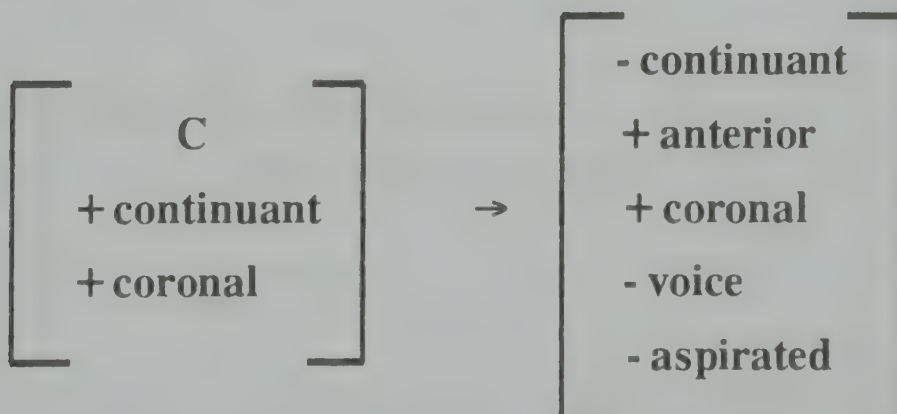
nəṣṭib (IA) → *nusīp* 'luck'

məsla (IA) → *musla* 'spice'

jəbab (IA) → *jubap* 'reply'

2.6. Defricativization

Khasi words never end in a fricative or an affricate. Hence, the fricatives /s, ʃ, z/ and affricates /c, j/ at the end of borrowed words change to dental stop /t/.



piaj (IA) → *piat* 'onion'

hərgij (IA) → *hOrkit* 'in no case'

pulis (E) → *pulit* 'police'

brΛš (E) → *brut* 'brush'

laləc (IA) → *lālOt* 'greedy'

khaj (IA) → *khait* 'ringworm'

It is interesting to note here that sometimes, when there is a need to disambiguate homophonous words resulting from the application of the above rule, the application of the rule is blocked.

glas (E) → *klāt* 'glass, tumbler'

klas (E) → *klas* 'class'

2.7. Elision

(i) In some cases, a vowel/syllable is elided in borrowed words. Although a vowel /syllable may be deleted in any position, usually it is the initial vowel/syllable that gets elided.

[+ syllabic] → Ø / # –

ilastik (E) → *listik* (*lastik* before Vowel Harmony) 'elastic'

thikana (IA) → *thikna* 'regular, certain'

tamasa (IA) → *tamsa* 'a show'

ətiar (IA) → *tiar* 'weapon, tool'

(ii) The word-final /l/ after a diphthong (/ai/ in particular) gets elided.

[+ lateral] → Ø / V V̆ – #

dail (IA) → *dai* 'lentil'

korəil (IA) → *kOrai* 'a variety of bitter gourd / *kakrol* (in Bengali)'

2.8. Deaspiration

All aspirated consonants become deaspirated word finally.

C

[+ aspirated] → [-aspirated] / – #

dūdh (IA) → *dūd* 'milk'

dukh (IA) → *duk* 'poor'

sukh (IA) → *suk* 'happy'

Khasi tends to deaspirate voiced aspirated consonants in other positions as well.

bhindī (IA) → *bindī* 'okra / lady's finger'

2.9. Metathesis

A few of the borrowed words exhibit metathesis.

bəksis (IA) → *buskit* 'reward, gift'

(*bəksis* > *buksis* > *buksit* > *buskit*)

philm (E) → *phlim* 'film'

2.10. Voicing assimilation

In some cases, the voiceless consonants appearing before a voiced segment (usually a vowel) become voiced.

C

[-voice] → [+voice] / – [+voice]

butam (E. through Sylheti) → *budam* 'button'

ispat (IA) → *isbat* 'steel'

2.11. Haplology

Khasi has masculine and feminine singular articles *u* and *ka* respectively. If the borrowed word begins with the syllable /ka-/ or /u-/ it is reinterpreted as bi-morphemic word. Hence the initial *u* or *ka* part of a borrowed word gets deleted, because Khasi speakers analyze these elements as the Khasi articles, and then the articles are reapplied.

kagəz (IA) → *kOt* (*ka kakOt* > *ka kOt* by the application of rules 2.2, 2.5 and 2.6 *kagəz* becomes *kakOt*) 'paper'

kətarī (IA) → *tarī* 'knife' (*ka katarī* > *ka tarī*)

uri (IA) → *rī* 'bean' (*u urī* > *u rī*)

ustad (IA) → *stad* 'clever, wise' (*u ustad* > *u stad*)

2.12. Epenthesis

(i) In some cases, a consonant (usually /t/ or /r/) is inserted at the end of a borrowed word.

$\emptyset \rightarrow C / - \#$

thana (IA) \rightarrow *thanat* 'police station'

tarajū (IA) \rightarrow *tarajur* 'scale/balance'

(ii) A vowel is inserted between a sequence of consonants occurring in medial position.

$\emptyset \rightarrow V / C - C$

mulk (IA) \rightarrow *muluk* 'country'

2.13. Vocalization

The semi-vowel /y/ changes to /i/ intervocalically.

aya (IA) \rightarrow *aia* 'an Ayah'

maya (IA) \rightarrow *maia* 'mystery'

naya (IA) \rightarrow *naia* 'new (as in 'new paise')'

2.14. Trillation

No Khasi word can end in a /l/. Hence, the word-final /l/ in a borrowed word changes to /r/. But the educated speakers of younger generation and those living in cities tend to retain word final /l/ in English words like 'ball', 'goal', etc.

<div style="border: 1px solid black; padding: 10px; display: inline-block;"> <p>+ vocalic</p> <p>+ consonantal</p> <p>+ anterior</p> <p>+ coronal</p> <p>+ voice</p> <p>+ continuant</p> <p>-nasal</p> </div>	\rightarrow	<div style="border: 1px solid black; padding: 10px; display: inline-block;"> <p>[-anterior] / - #</p> </div>
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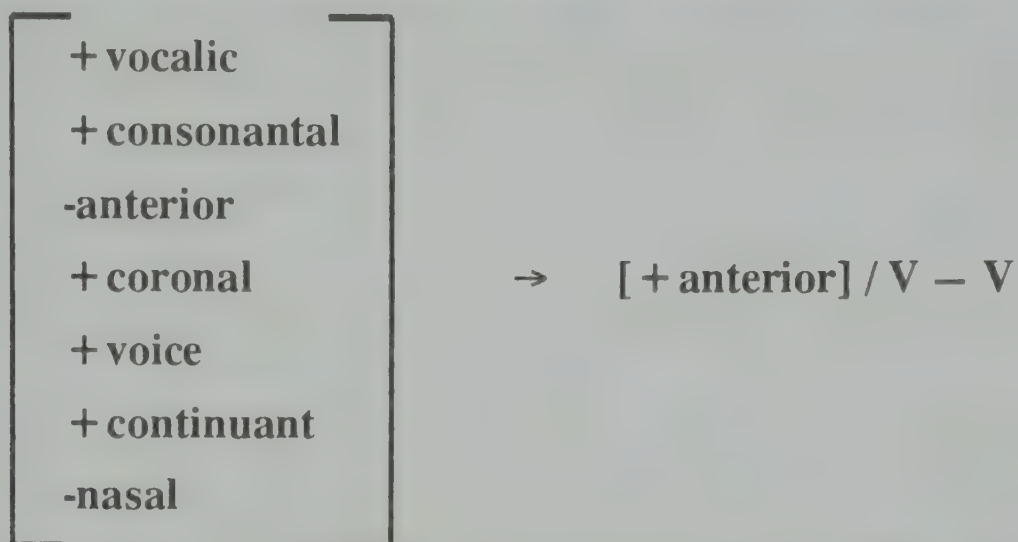
rumal (IA) → *rumar* 'handkerchief'

dəlīl (IA) → *dulīr* 'document'

apīl (E) → *apīr* 'appeal'

2.15. Lateralization

In almost all the borrowed words, medial /r/ (usually between two vowels or between a consonant and a vowel) changes to /l/.



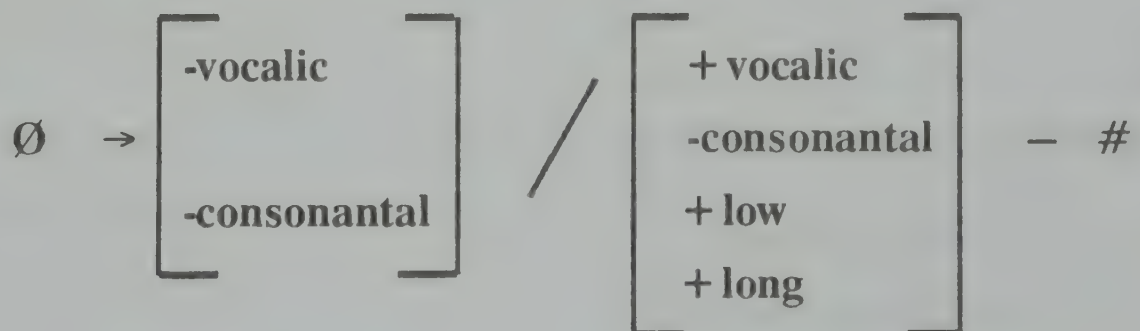
mura (IA) → *mula* 'a low stool made of plaited canes'

garī (IA) → *kalī* 'motor car, carriage'

krōr (IA) → *klūr* 'one crore'

2.16. Diphthongization

In some cases, the word final /a/ is diphthongized (especially when the previous syllable contains /u/). Consider the following examples.



gua (IA) → *kuāy* 'betel nut'

gura (IA) → *kulāy* 'horse' (*gura* > *kurā* > *kulā* > *kulāy*)

dəria (IA) → *duriāw* 'sea'

patia (IA) → *patiāw* 'to trust/believe'

2.17. Denasalization

Khasi does not have nasalized vowels; hence the nasalized vowels in borrowed words are realized as non-nasalized.

V

[+ nasal] → [-nasal]

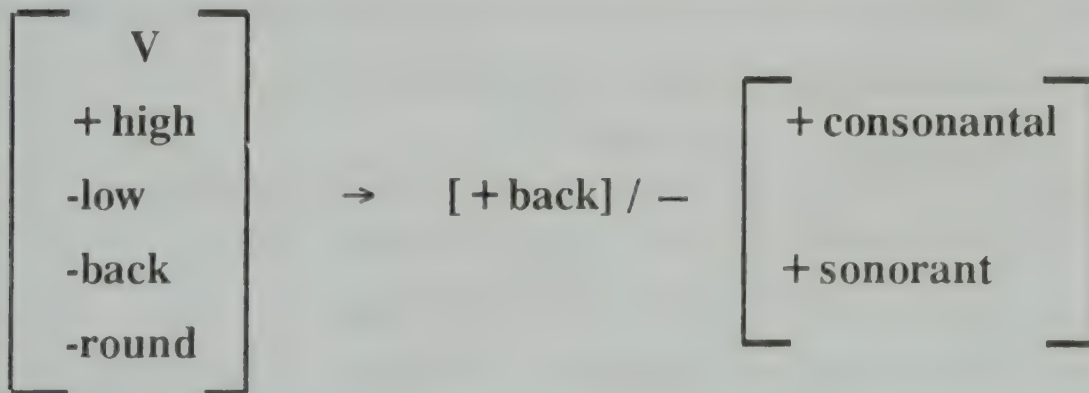
ūt̃ (IA) → *it* 'brick'

ūt̃ (IA) → *ut* 'camel'

phāsi (IA) → *phasi* 'to hang'

2.18. Ablaut

In almost all the di-/tri-syllabic words, a vowel other than a /u/ occurring in the first syllable after a single consonant changes to high, central, unrounded vowel [i] before a sonorant consonant.



gānda → *kīnda* 'rhinoceros'

ghānta → *kīnta* 'hour'

pOrda → *pīrda* 'curtain'

pirthī → *pīrthei* 'earth'

māntrī → *mīntrī* 'minister'

pālla → *pīlla* 'pan of scales'

3. Rule Interaction and Derivation

Following are some examples of rule interaction and derivation of words.

(a) *mukotduma* (Assamese/Bengali; seen as composed of two parts *mukot* and *duma*) 'court case/lawsuit'

UR	/mukoddəma/
Devoicing	<i>mukotdəma</i>
Raising	<i>mukotduma</i>
PR	[<i>mukotduma</i>]

(b) *kuay* (IA) 'betel nut'

UR	/gua/
Devoicing	<i>kua</i>
Diphthongization	<i>kuay</i>
PR	[<i>kuay</i>]

(c) *klumar* (IA) 'disorder(ly)'

UR	/gulmal/
Devoicing	<i>kulmal</i>
Trillation	<i>kulmar</i>
Metathesis	<i>klumar</i>
PR	[<i>klumar</i>]

(d) *kumud* (E) 'commode'

UR	/kəmod/
Raising	<i>kumod</i>
Vowel Harmony	<i>kumud</i>
PR	[<i>kumud</i>]

(e) *dOrkhat* (IA) 'petition/application'

UR	<i>dOrkhast</i>
Cluster Simplification	<i>dOrkhas</i>
Defricativization	<i>dOrkhat</i>
PR	[<i>dOrkhat</i>]

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PROMINENCE IN ORIYA, BANGLA AND ASSAMESE - A PHONETIC AND PHONOLOGICAL INVESTIGATION

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1. Introduction

The development of Indo Aryan speech in easternmost India can be traced from Sauraseni Prakrit, Magadhi Apabhramsa (literally translated means vulgar speech) and finally to Assamese, Bangla and Oriya. The aim of this paper is to establish the prominence¹ systems of these three languages with the help of experimental evidence. It is indeed a complicated task given the confusing nature of the literature available on this area. Therefore, before dealing with the synchronic accent of these languages, it will be worthwhile to present a short overview of the history and genesis of accent and word stress in the common parent languages. In terms of linear order, Vedic Sanskrit, Classical Sanskrit and Eastern Prakrit (notwithstanding a more than meagre influence of surrounding Dravidian, Tibeto Burman and Mon Khmer dialects) can be approximately said to have lead to the formation of the three languages taken up for consideration.

Accent in Vedic Sanskrit is determined by complex morphological rules. Accent in inflected forms can be simplified into inherently accented and inherently unaccented. Inherently accented stems have a fixed accent in their inflectional paradigm. Inherently unaccented stems have stem/ending mobility if athematic and fixed theme accent if thematic (stems with theme vowels). Derivational suffixes, in both nouns and verbs, generally cause the stem to be accented. The resulting derived stem functions as an inherently

1. Prominence, accent and stress have been used complementarily.

accented stem for assigning the inflectional accent. Apart from these specific rules, the most general principle of accentuation in Sanskrit is that the leftmost accent assigned in a cycle supersedes the others.

Indigenous philology preserved the Vedic texts to the minute phonetic details. Rig Veda, Sama Veda and Panini distinguishes three levels of pitch accent and has a rule of rightward spread, which provides the syllables to the right of the main accent with a secondary accent, higher in pitch than syllables to the left of the main accent. (Kiparsky, 1973c). According to this rule, the high pitch associated with the accented syllable spreads to the right of the main accent. This spread applies iteratively from left to right. Interestingly, in Vedic Sanskrit, this system of accentuation starts changing as early as the Rig Vedic times, where due to rightward spread the original primary (high) accent 1 is depressed to pitch 2. Kiparsky (1973c) gives the following rule to express this spread:

(1) $1 \rightarrow 2$ / except before 2

Classical Sanskrit on the other hand, differs from Vedic Sanskrit as the morphological rules were replaced by phonological rules, based on the weight of the following syllable. Bubenik (1996) describes the rules to be the following: in disyllabic words the first syllable is accented. In trisyllabic words the penult is accented if it is heavy (the initial syllable if the penult is light). In quadrasyllabic words the penult is accented if it is heavy; if the penult is light the antepenult is accented; if both the penult and antepenult are light then the first syllable will be accented.

The third relevant stage in the development of these Eastern Indian languages is Prakrit and according to Pischel (translated by Jha, 1981), Eastern and Western Prakrits retained the system of accentuation of Classical Sanskrit, whereas South Western Prakrit followed the Vedic system of accentuation. Grammarians like Grierson (1895), dispute this view of two parallel systems of accentuation and posit the theory of a uniform system of accentuation, where all the Modern Indo Aryan dialects have a similar system of penultimate stress. According to this view, all modern Indo Aryan languages have 'Latin' type of accentuation where stress is usually on the first long syllable from the end of the word, and there is secondary stress on the first syllable.

Linguists have studied accent in contemporary Bangla, Assamese and Oriya in a limited way and therefore, contradictory claims and counter claims beleaguer the scene. For instance, Kakati (1941) accepts the Griersonian description, in which Assamese is said to follow the pan Indian system of accenting the heavy penultimate syllable.

Goswami (1966) differs from this view and opines that primary stress in Assamese is on the first or second syllable and never moves beyond the second syllable.

Chatterji's work (1926), which was a pioneering one in the history of Indian linguistics, was the first to observe that stress is initial, unlike the iambic rhythm proposed by Grierson for all Indo Aryan languages. Chatterji (1926) states that in modern Bengali (Standard Colloquial), stress is dominantly initial, and word stress is suppressed by sentential intonation, where the first important content word bears the pitch accent and the remaining words lose the stress that they may have possessed in isolation. Significantly, Chatterji attributes this form of accentuation to influences like Dravidian (in primitive Dravidian stress was always on the initial or root syllable) and Tibeto-Burman, primarily Bodo, which according to Chatterji has strong initial phrase stress.

Mitra (2002) shows that in trisyllables of Standard Colloquial Bangla, prominence shifts to the second syllable if a heavy syllable follows the initial light syllable.

Turning to Oriya, Chatterji (1926) states that stress in modern Oriya is on the penultimate.

However, Majumdar (1970) cites Goswami's (1966) view on Assamese and concludes that in modern Oriya also "stress is always on the initial syllable if it is not followed by a long vowel, diphthong or a syllable closed by a long consonant behaving as such in which cases the accent shifts to the second syllable" (Majumdar 1970: 214).

There is no doubt that in the course of its transformation in different times and different places, the complex morphophonological rules of accentuation of the language of ancient India (Vedic Sanskrit) as described in the Vedas, Panini and others, have not been preserved.

Nevertheless, there may be a remnant of the phonetic rule in Vedic Sanskrit, that the prominent syllable is lower in pitch than the syllables bearing secondary prominence. In the following sections, we will describe an experiment carried out in order to investigate the acoustic properties of prominence and correspondingly its realization in the three languages. We will also show that despite variations in the realization of prominence, the three languages of eastern India share the same acoustic correlates to implement primary prominence.

2. The Rationale

Before describing the experiment and its findings it will be worthwhile to understand the rationale of the present investigation. There is unequivocal agreement (albeit without any detailed examination) among linguists that word stress in Indian languages is a phonetic phenomenon where the neutral word level pitch melody is 'lh' and the location of the stress-bearing syllable is the leftmost syllable in an utterance. (see Mohanan 1986, Lahiri 1999). This paper does not merely seek to examine the phonetic correlates of pitch; it also tries to study the phonological attributes of prominence, if any, in the three languages.

We have already discussed the conflicting claims about stress in Assamese, Bangla and Oriya. Our experiment has been motivated by these claims, among which the claim about Bangla has been considered fairly robust and conclusive. Although Chatterji (1926) is still considered the best description of stress in Bangla, there are a few observations, which do not agree with its central thesis of stress in Bangla, Oriya and Assamese. In the introduction to *ODBL*, it is argued that Assamese-Bangla share so many properties that they may best be considered as a cohesive group, from which Oriya is quite distant, primarily because it formed its own distinct properties at an early stage of development. Prior to Aryanisation, which spread mainly from Bengal, Oriya was probably a non-Aryan language, which stabilized around 14 A.D. and remained the same. Assamese and Bangla is said to have started, as one language, but Assamese became an independent language by not acknowledging literary Bangla and initiating its own. Given that these conjectures are true, then, it is indeed curious as to why in *ODBL*, it is Oriya that shares the phonological properties of stress with Assamese. At the same time, Chatterji also states that

Bangla owes its initial stress to Dravidian among other influences. Again, it is puzzling as Oriya is closer to Dravidian influences rather than Bangla. This disjunction in characterizing stress in these three languages needs further examination, and a careful study with instrumental evidence will probably give us a clearer picture.

Majumdar (1970) observes that even though the phenomenon of gemination of the first consonant of second syllable is not documented by orthography, it is present in modern Oriya to render the first syllable heavy and therefore the stress-bearing syllable. At the same time he also notices that the rule of gemination does not hold good when the stress lies on the second syllable. Palpably for us, it is an indication that in modern Oriya stress does not shift at all, and remains fixed on the initial syllable. Therefore, the need arises to validate our conjectures with adequate acoustic justification.

According to these predictions, stress in Bangla is not phonological, as the character of the following syllable (i.e. whether it is open or closed) is inconsequential, whereas stress in Oriya is dependent on it. Since these are only impressionistic observations, noted by the authors when instrumental facilities were not available, the first aim of our investigation is to establish the primary correlates of prominence in the languages. Whether the predictions stated above, are experimentally falsifiable or not, depends on the acoustic cue of prominence. If we accept the word level pitch melody of Oriya to be 'lh', then supposedly, when stress shifts to the following syllable, what happens to the 'l' on the leftmost or stress bearing syllable? On the other hand, if stress does not shift in Bangla, then does the 'lh' contour remain undisturbed? Is the low tone in all the three languages fixed on one edge irrespective of whether the following syllable is closed or open? If it is fixed, then how does stress shift manifest itself for acoustic verification? These questions and their plausible answers will guide the course of the present investigation. Therefore, the decisive criterion in all the three languages, in order to determine the placement of stress, would be to find out how the 'lh' contour manifests in words containing combinations of different syllable types.

This brings us to the phonological motivation of our endeavour-if prominence shifts in Oriya, Bangla or Assamese, then we will have to consider closed syllables as 'heavy' in these languages, as

they attract prominence, and vice versa. This idea has its moorings in the principle of WSP (Weight to Stress Principle), which we will discuss elaborately in the last section. In the light of the above discussion, it is clear that the findings for Oriya will be very crucial to adjudicate anything definite about prominence in the three languages.

3. The Experiments

Having laid down the *raison d'être* of the proposed experiment, in this section we will present the details of the experiment. Recall, that in the preceding section we had mentioned that Oriya is closer to Dravidian than Assamese and Bangla. We have stretched this argument a little further, so as to conduct our experiment along these lines. Accordingly, we divided our experiment into two parts, where Assamese and Bangla formed one separate group, and Oriya another. Assamese and Bangla could be analyzed by using comparable sets of words, which were not possible for Oriya. Constraints like a different script and lack of final closed syllables in Oriya, were also some of the reasons for this division.

Further, we hypothesize that Oriya is a language with prototypical fixed left edge stress. However, Bangla and Assamese are unlike Oriya, as stress shifts in these two languages.

Let us present the common features of the two experiments, before going into the specific details of each experiment. The selected words were embedded in a carrier frame, and the sentences were presented in the respective native scripts of the speakers. The frame sentence can be literally translated into English in the following way:

(2) I ____ did not say, I ____ said.

The words were placed in the medial position to avoid sentence final intonational effects and 6 iterations of each utterance were recorded. Each word occurred in both the places and all iterations of the words were taken for spectral and statistical evaluation. The double occurrence of each word increased the number of iterations to 12. Common spectral cues were used for segmentation. The sentences to be evaluated by using the software PRAAT, were directly recorded onto a computer in a sound proof room. The utterances were digitized at a sampling rate of 22 KHz, 16-bit mono.

The following three Fundamental frequency values were obtained for each vowel: pitch start, pitch end and pitch range. The criterion for choosing the first two was to ascertain whether the pitch value of the F0 contour continuously rose or whether it remained stable. If stress shifts, then the tone associated with the leftmost edge may also shift to the second syllable. This shift from one syllable to another can be statistically computed only if the values of pitch end of the first vowel and the pitch start of the second one is taken into consideration.

The range of the fundamental frequency in each vowel was determined by calculating the difference between the highest and lowest F0 obtained within the duration of the vowel. Moreover, for all comparisons, only the range of the second vowel was considered important, as the temporal pitch changes were likely only in the second syllable.

Duration measurements were made for the vowels in the target words. Segmentation boundaries were determined in a straightforward manner by visual criteria. To examine the significance of the effects of stress we ran a two-tailed T-Test on the values obtained. We took $p = 0,05$, so a result of less than 0.05 shows that the T-Test is statistically significant.

3.1 Results

To compute the values obtained after analyzing the corpus, we had two options, we could either say that primary accent is fixed on the first syllable in the three languages, or we could look at the phonetic correlates in the medial closed syllables a little more carefully. We took the latter option in all our statistical analyses, when we compared the values of LHL with the values of other foot types. The reason behind this is obvious; if stress shifts, then other syllable types will differ from LHL, where the medial closed syllable may attract prominence.

3.2 Oriya

Four male speakers of Standard Colloquial Oriya were taken for the experiment. However, only three speakers were taken for the final evaluation. The utterances were presented to them in the Oriya script. The informants were native speakers of Standard Colloquial Oriya. The experimental corpora consisted of only trisyllables, but for a few

derived and non-derived pairs, which were taken to study the pattern of prominence in morphologically complex words in Oriya. Syllable types were restricted to LLL, LHL, HLL and HHL. Out of the total 27, 8 words exemplifying LLL, LHL, HLL and HHL are given below:

(3) Examples of Oriya words used in the experiment

/patarɔ/	‘hell’	/kɔtɔkɔ/	‘Cuttack’	(LLL)
/mukundɔ/	‘name of a person’	/terɔnda/	‘part of a fishing rod’	(LHL)
/sɔmbɔndʰɔ/	‘relation’	/sɔmpɔti/	‘property’	(HHL)
/sɔŋɔti/	‘company’	/sundɔrɔ/	‘beautiful’	(HLL)

In Bangla and Assamese, only final closed syllables were chosen to determine the presence of secondary prominence. In Oriya, on the other hand final syllables are obligatorily open (except a negligible few), therefore the possibility of secondary prominence was ruled out.

(4) Pitch end Vowel 1

LHL >> LLL				
T Test	.13	>	.05	not significant
LHL >> HLL				
T Test	.79	>	.05	not significant
LHL << HHL				
T Test	.03	<	.05	significant

As it is evident from figures 1 and 2, F0 trace always starts on a low pitch and thereafter continues to rise from the next syllable. In all the types, the initial syllable has the lowest pitch² in the word. There is a rise in the pitch from the following syllable. As we said earlier, we have computed the pitch end of the vowel of the first syllable for statistical purposes. The difference between the pitch end of the first vowel in

2. Durational values of Oriya did not show any thing conclusive, when the vowels within the same type were compared.

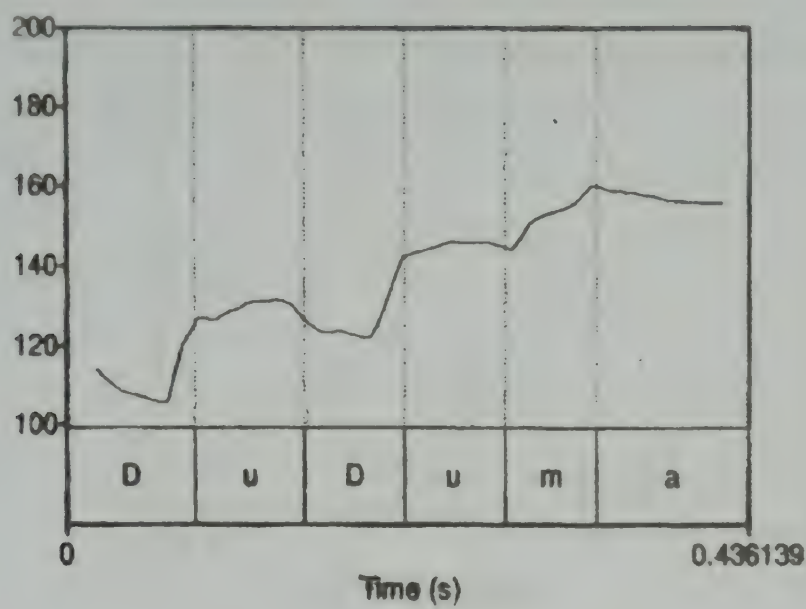


Fig. 1. LLL

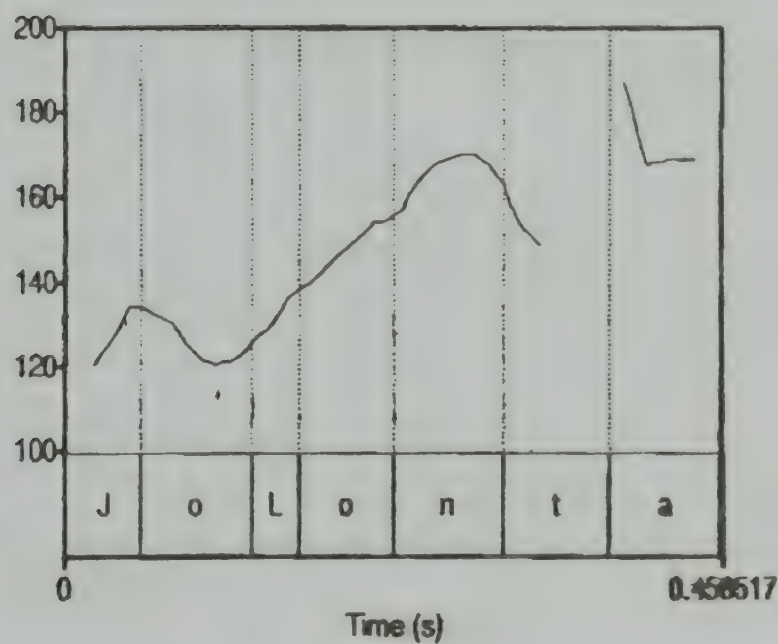


Fig. 2. LHL

LHL and the same vowel in LLL and HLL was not significant, which statistically shows that the pitch end values of all the tokens of these types are the same. However, HHL has significantly different pitch end values as the two consecutive closed syllables lower the F0 contour, unlike the continuously rising ‘lh’ pattern in LLL, LHL and HLL (see figs. 1, 2, 3 and 4).

(5) Pitch start Vowel 2

LHL >> LLL			
T Test	.06	>	.05 not significant
LHL >> HLL			
T Test	.74	>	.05 not significant

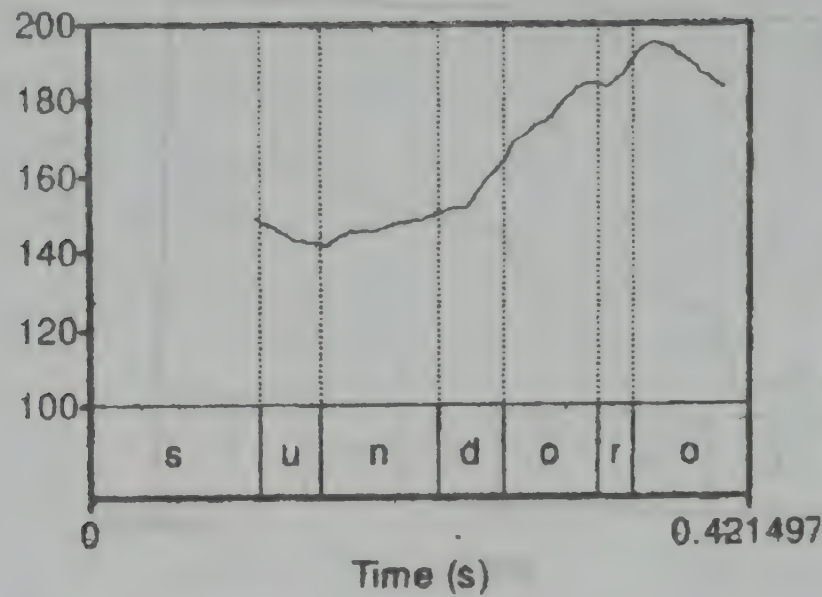


Fig. 3. HLH

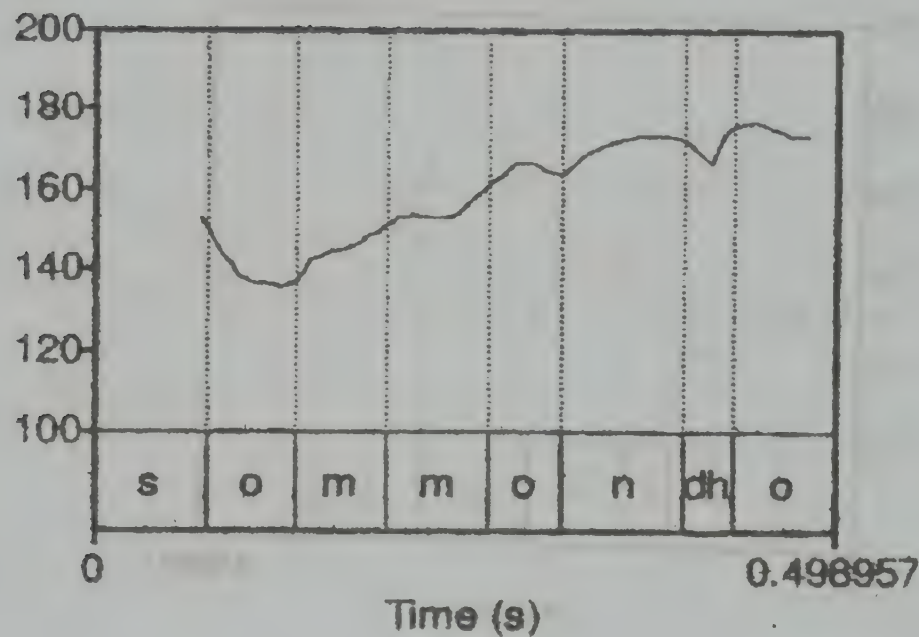


Fig. 4. HHH

LHL >> HHL

T Test .94 > .05 not significant

Pitch start³ values (the start of the pitch level of the second syllable nuclei) of Oriya LLL, HLL and HHH paradigms are not significantly different from LHL (see figures 3 and 4), which means that the pitch start values of all the types are analogous. These results make

3. In our analysis, we have ignored some left edge effects like a sudden pitch drop on the onset or a rise etc. Despite efforts to control our data to avoid these disturbances, they presumably crept in due to segmental perturbations caused by voiced obstruents, high vowels and aspirates. One perhaps cannot do without the gaps and irregularities that are inherent in natural languages.

more sense if the diagrams are also taken into consideration. The diagrams show that pitch start of the second syllable begins to rise exactly on the point of onset of the second syllable, and for the same reason their values are not different from one another.

(6) Pitch range Vowel 2

LHL >> LLL				
T Test	.56	>	.05	not significant
LHL << HLL				
T Test	1.21E-06	<	.05	significant
LHL << HHL				
T Test	2.14-13	<	.05	significant

The results of pitch range (the difference between the maximum and minimum pitch level of vowels) also show that the difference in the pitch ranges between the second vowels of LLL and LHL is not significant. However, in HLL and HHL, the pitch range is significant because the closed syllables arrest the ‘lh’ tonal contour to a considerable extent. This is borne out by the figures in 3 and 4, as the range of the second vowel in these patterns is smaller than the ranges in LLL and LHL.

The F0 results and their corresponding diagrams reinforce one and the same - that the initial syllable is always low and the tonal contour ‘lh’ remains unaltered for all syllable types.

(7) Duration Vowel 1 << Vowel 2 LHL

T Test	.001	<	.05	significant
Duration Vowel 1 << Vowel 2 LLL				
T Test	.0001	<	.05	significant
Duration Vowel 1 << Vowel 2 HHL				
T Test	1.5E-05	<	.05	significant

Duration Vowel 1 << Vowel 2 HLL

T Test 5.7E-16 < .05 significant

Duration measurements show that the first vowel is always significantly longer than the second syllable.

Let us compare the pitch range and duration of derived and non-derived pairs.

(8) Pitch range - Vowel 1 of unaffixed >> Vowel 1 affixed tokens

T Test .065 > .05 not significant

Pitch range - Vowel 1 of unaffixed << Vowel 2 of affixed tokens

T Test .02 < .05 significant

Duration - Vowel 1 of unaffixed >> Vowel 1 of affixed tokens

T Test .17 > .05 not significant

Duration - Vowel 1 of unaffixed << Vowel 2 of affixed tokens

T Test 6.1E-14 < .05 significant

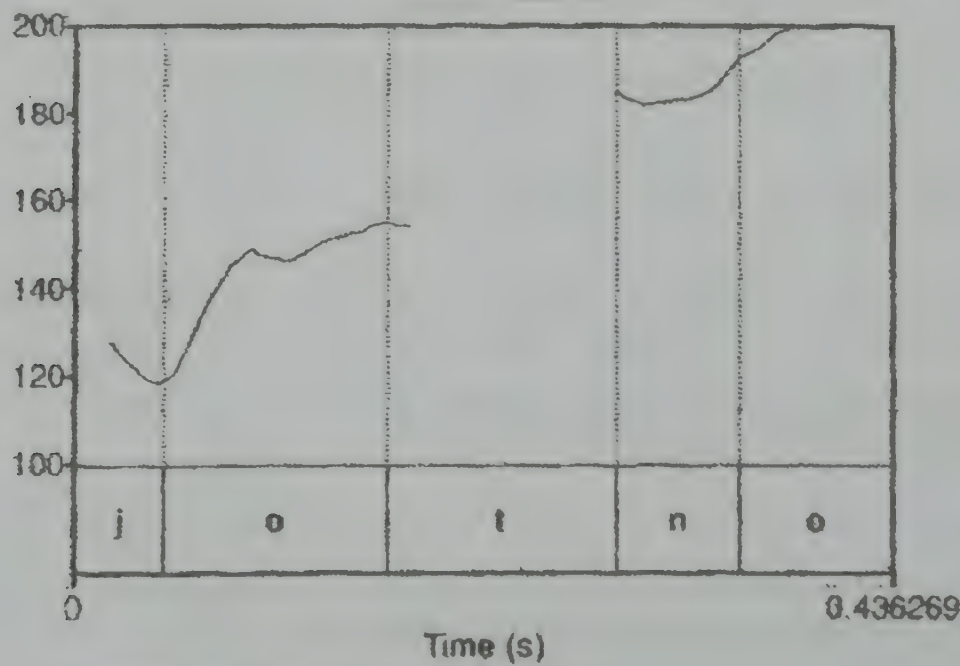


Fig. 5. Non-affixed (Oriya)

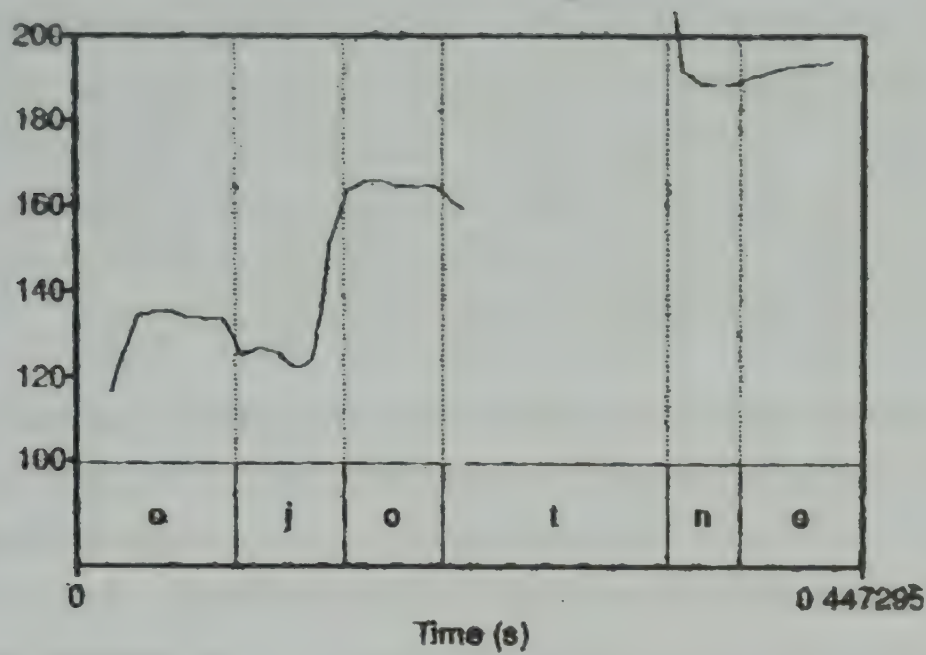


Fig. 6. Affixed (Oriya)

The following are the affixed and non-affixed pairs of words that were taken for the Oriya experiment.

(9) Affixed and non-affixed pairs for Oriya

(a) non-affixed	Gloss	(b) affixed	Gloss
/batɔ/	way	/ɔbatɔ/	way (negative)
/ɖɔtnɔ/	care	/ɔɖɔtnɔ/	not cared for
/ɖuktɔ/	bound	/ɔɖuktɔ/	unbound

There is no significant difference in duration as well as temporal pitch ranges between the prefixed vowels of (9) (b) and the non-prefixed initial vowels of (9) (a). The diagrams in figures 5 and 6 exemplify this result. The morphological complexity of the prefixed /ɔɖɔtnɔ/ does not make any difference to the ‘lh’ contour. That the tonal contour of the prefixed word is exactly like the non-affixed counterpart is captured by the result that there is no significant difference in the pitch range values of the two.

The initial vowel of the unaffixed tokens in (9) (a) occurs as the second vowel in the tokens of (9) (b) due to prefixation. i.e., a of bato is the nuclei of the second syllable in the prefixed /ɔbatɔ/ and so on and so forth. And when the two were compared, (the initial vowel of the unaffixed types and the second vowel of the prefixed types) for both pitch range and duration, it appeared that there was a significant

difference between them. This shows that the vowel, which is otherwise long in the initial position is shortened when it has an unstressed non-initial position. These facts prove that there is no stress shift in morphologically complex words also. A comparison of this kind where the same vowels are compared obviates featural perturbations that might normally affect the values of vowel duration and pitch.

Finally, the results from affixed and non-affixed pairs clinch the argument about Oriya stress in favour of a highly phonetic interpretation. It is clear that in Oriya the prominent syllable is associated with a low pitch (see Fig. 7). Phonologically, the stress does not go beyond the initial syllable in any kind of foot pattern, even the LHL type and derived sequences. So the first syllable is always associated with low pitch. Our results show that a low frequency is always located on the first vowel on the left edge and that the duration of this vowel is consistently longer than that of the second vowel.

Abstracting away from the acoustic and statistical details, we can represent prominence in Oriya (irrespective of syllable types) with the simplified diagram below:

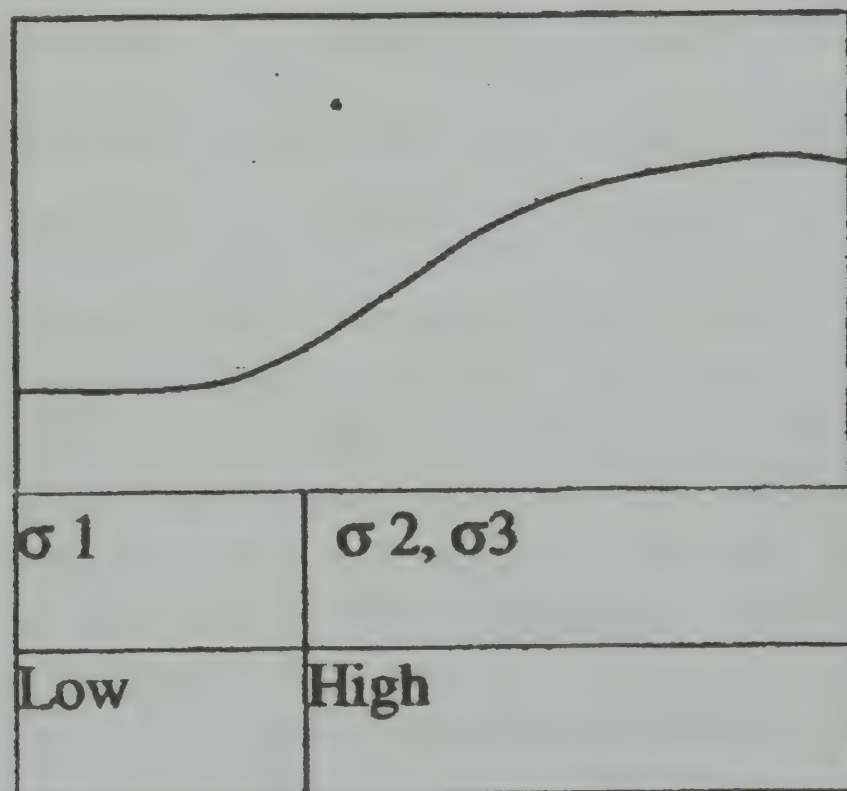


Fig. 7.

Where the first syllable will always have a low tone and as a corollary prominence. Our hypothesis that Oriya is a prototypical fixed left edge stress system has been proved convincingly by all the results.

3.3 Bangla and Assamese

The number of speakers taken for Bangla and Assamese were two for each language. The informants were the native speakers of Standard Colloquial Bangla and Standard Colloquial Assamese respectively. The experimental corpora were restricted to trisyllables of types LLH, LHH, HLH and HHH, where the final syllables were always closed. Bangla and Assamese are being considered as one group, according to our hypothesis, and therefore their results will be analyzed together. Comparable words were taken for both the languages. Two examples of each type are given below:

(10) Assamese and Bangla examples

Assamese/ Bangla	Gloss	Assamese/ Bangla	Gloss	Type
/nabalɔk/	‘child’	/b ^h ɔgɔban/	‘God’	(LLH)
/nabalok/		/b ^h ɔgoban/		
/nirik ^h ɔn/	‘observe’	/abestɔn/	‘allotment’	(LHH)
/nirik ^h ɔn/		/abestɔn/		
/bɔrtɔman/	‘present’	/dɔstabez/	‘diary’	(HLH)
/bɔrtoman/		/dɔstabez/		
/niskɔntɔk/	‘without hurdles’	/ɔntord ^h an/	‘disappear’	(HHH)
/niskɔntok/		/ɔntord ^h an/		

(11) Pitch end Vowel 1 (Bangla)

LHH >> LLH

Test	0.17	>	.05	not significant
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LHL << HLH

T Test	1.3E-6	<	.05	significant
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LHH << HHH

T Test	6.1E-11	<	.05	significant
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(12) Pitch end Vowel 1 (Assamese)

LHH << LLH				
T Test	3.7E-07	<	.05	significant
LHL << HLH				
T Test	1.02E-10	<	.05	significant
LHH << HHH				
T Test	1.14E-13	<	.05	significant

If we examine the statistical results and consider the figures 8-11, it becomes clear that the left edge is always associated with low tone. Therefore Pitch end (i.e. the pitch value of the end of the first vowel) of LHH is not significantly different from LLH in Bangla, which can be literally interpreted as analogous F0 contours till the end of the first syllable, for both syllable types. The figures 8 and 10 show this result clearly. This has not been obtained for HLH and HHH foot types. A closer inspection shows that due to the initial closed syllables the F0 is much higher than the other foot types. Unlike Bangla, the pitch end for Assamese is significantly different in LHH than any other. As the figures 10 and 11 show the pitch end of the vowel of the first syllable in LHH is lower than the other types.

It could be conjectured that the word pitch melody is the sequence ‘lh’ with the ‘l’ obligatorily associating with the left edge. The results simply show that in Bangla, the low tone of LHH is as low as the others till the end of the first syllable. In Assamese, on the other hand, the low pitch of LHH has a lower level than the other types. The differences between the two languages in this respect can be ignored because these results indicate minor language specific variations at the left edge.

(13) Pitch start Vowel 2 (Bangla)

LHH << LLH				
T Test	.0004	<	.05	significant
LHH << HLH				
T Test	4.2E-22	<	.05	significant

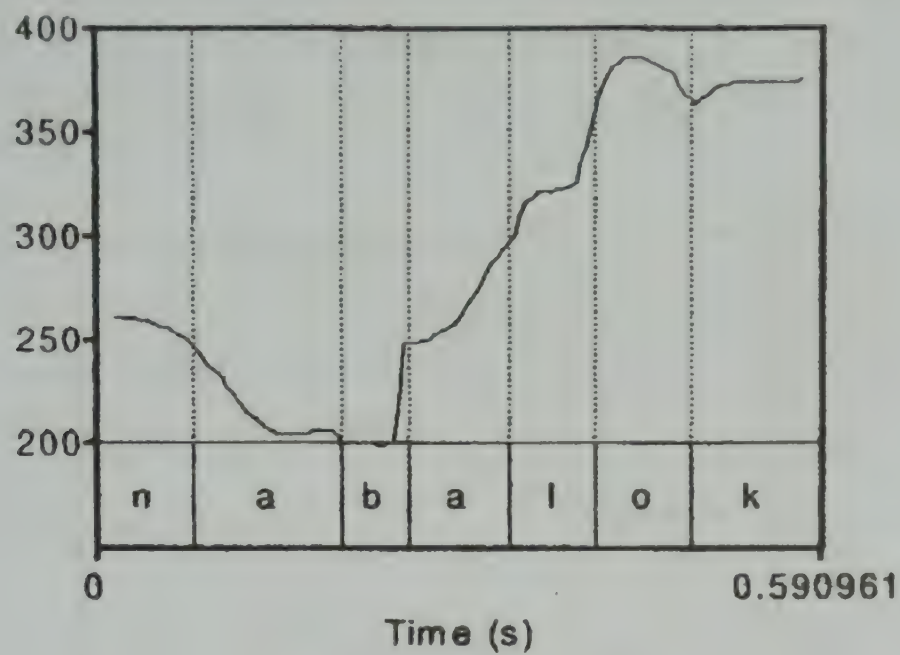


Fig. 8. LLH (Bangla)

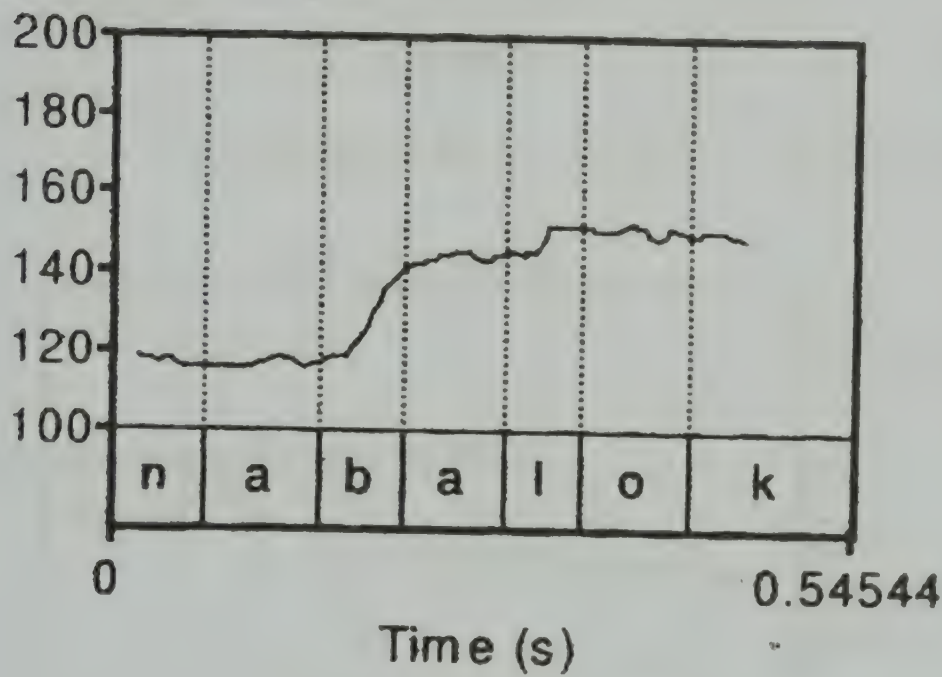


Fig. 9. LLH (Assamese)

LHH << HHH

T Test	4.2E-12	<	.05	significant
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(14) Pitch start Vowel 2 (Assamese)

LHH << LLH

T Test	7.9E-07	<	.05	significant
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LHH << HLH

T Test	6.07E-13	<	.05	significant
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LHH << HHH

T Test 8.09E-06 < .05 significant

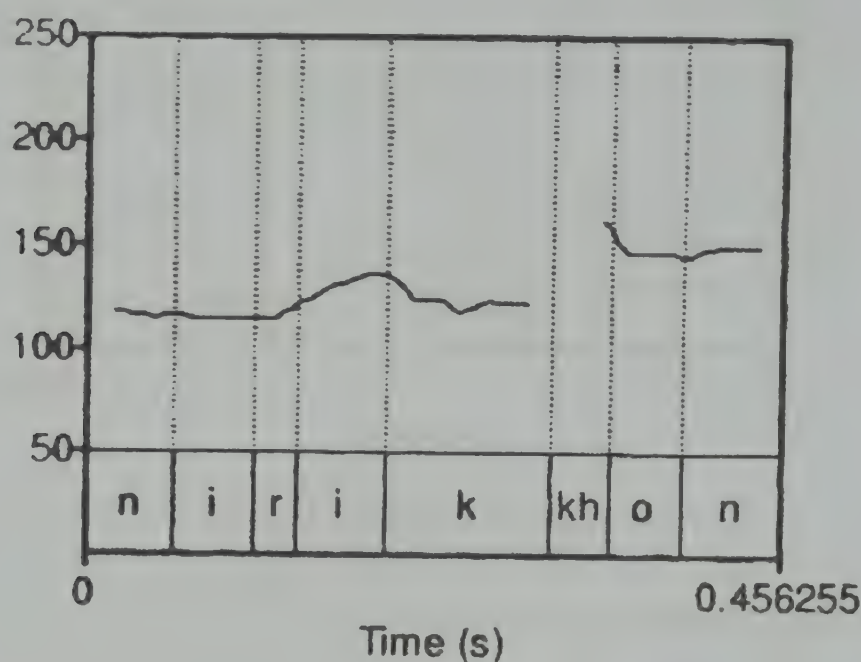


Fig. 10. LHH in Bangla

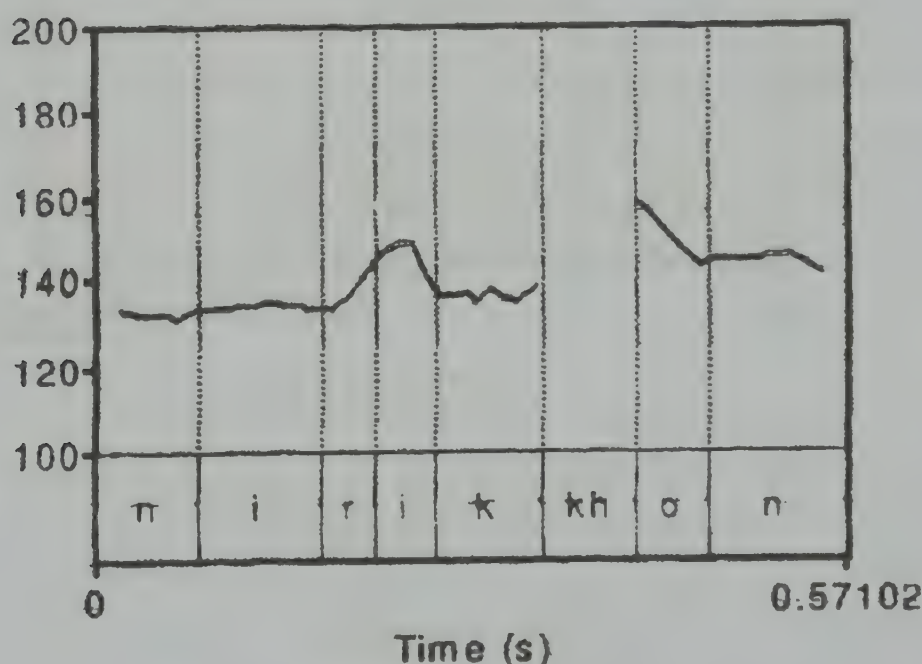


Fig. 11. LHH in Assamese

Interestingly, Bangla pitch start (pitch start of the second vowel) for all the types are significantly different from LHH. On closer inspection (see figures 8 & 11 above), it has been revealed that the pitch start of LLH is much higher than the pitch start of the others, indicating that LLH starts at a low level in the first syllable and keeps rising steadily till the initiation of the second syllable. This rise is arrested in LHH tokens (see 10 above), where the F0 is steady till the start of the vowel of the second syllable. LHH pitch start is considerably low

compared to other types, and this behaviour is captured in the result that the pitch start values of other types are significantly different from LHH pitch start.

Pitch start in Assamese and Bangla are alike; LHH has the lowest pitch start, whereas HHH has the highest pitch start. Therefore, in Assamese too, statistics shows that pitch start values of all types are significantly different from LHH.

(15) Pitch range Vowel 2 (Bangla)

LHH << LLH				
T Test	.01	<	.05	significant
LHH << HLH				
T Test	.03	<	.05	significant
LHH << HHH				
T Test	1.7E-11	<	.05	significant

(16) Pitch range Vowel 2 (Assamese)

LHH << LLH				
T Test	.01	<	.05	significant
LHH >> HLH				
T Test	.09	>	.05	not significant
LHH >> HHH				
T Test	.37	>	.05	not significant

Perhaps the best cue for prominence is pitch range. For both Bangla and Assamese the pitch ranges of all the patterns varies significantly from LHH. As the figures from 8 -11 show, the pitch range in LHH is much higher than the other types. HLH and HHH induce a rise in the pitch due to the extra segment in the initial syllables.

In a nutshell, the fundamental frequency values of Bangla and Assamese show that the low tone is always associated with the left edge

of the word. However, the archetypal word melody ‘lh’ is intact only in LLH, HLH and HHH. This melody undergoes modification in LHH, where even though the skeletal ‘lh’ is preserved, the low tone of the initial syllable spreads till the start of the second syllable. The result that the pitch start and pitch range of LHH is significantly different from LLH establishes this variation statistically.

(17) Duration (Bangla)

First Vowel	LHH << LLH			
T Test	.005	<	.05	significant
Second Vowel	LHH << HHH			
T Test	4.4E-03	<	.05	significant
Third Vowel	LHH << LLH			
T Test	1.3E-14	<	.05	significant
	LHH << HLH (VN) ⁷			
T Test	2.1E-06	<	.05	significant
	LHH << HHH (VN)			
T Test	.001	<	.05	significant
	V1 << V2 - LLH			
T Test	3.7E-07	<	.05	significant
	V1 << V2 - LHH			
T Test	4.4E-18	<	.05	significant
	V1 << V2 - HLH			
T Test	2E-65	<	.05	significant
	V1 << V2 - HHH			
T Test	.0001	<	.05	significant

(18) Duration (Assamese)

First Vowel LHH << LLH				
T Test	5.48E-13	<	.05	significant
Second Vowel LHH << HHH				
T Test	8.9E-08	<	.05	significant
Third Vowel LHH << LLH				
T Test	1.3E-24	<	.05	significant
Third Vowel LHH << HLH				
T Test	1.3E-05	<	.05	significant
Third Vowel LHH << HHH				
T Test	3.5E-17	<	.05	significant
V1 << V2 - LLH				
T Test	4.3E-21	<	.05	significant
V1 << V2 - LHH				
T Test	1.6E-42	<	.05	significant
V1 << V2 - HLH				
T Test	.008	<	.05	significant
V1 << V2 - HHH				
T Test	3.6E-28	<	.05	significant

Duration of vowel length in Bangla is an obvious phonetic correlate only in LHH and LLH. In the other patterns, spectral analysis showed that the VN⁴ clusters occupied a major part of the duration of the syllable. When these values were calculated it appeared that in Bangla, the final syllables in HLH and HHH were the longest.

4. Vowel lengths of words with obstruents were the longest. Since such words were only 2 in number, they have been left out of the computation.

However, in LLH the calculation of vowel periodicity itself gave us the same result. That vowel length is also the acoustic cue of prominence, has been conclusively shown by the significance tests. Notice that the longest vowel duration in LHH is on the vowel of the second syllable. This is proven in the significance test where the H of LHH and the H of HHH are compared. The result shows that there is a significant difference in vowel length. Secondary prominence in Bangla is therefore associated with longer vowel duration in LLH and longer VN cluster duration in HLH and HHH. Whereas, no secondary prominence exists in LHH, where the second vowel is the longest.

The significance T Tests for the Assamese tokens has also demonstrated secondary prominence on the final syllables of LLH, HLH and HHH and not in LHH. In LHH, the vowel length of only the medial closed syllable is the longest.

4 Discussion

4.1 Duration

Duration is quite uncomplicated in Oriya. In all syllable types, the vowel of the first syllable is longer than the other vowels, showing that phonetic properties augment prominence on the initial syllable as unmarked.

Duration in Assamese and Bangla is the cue for secondary prominence in LLH, HLH and HHH. Assamese secondary prominence is more obvious than Bangla; Assamese has a significantly longer duration on all the final heavy syllables except LHH, where the second syllable vowel is the longest and the most prominent. Even though the second syllable vowel is the longest among the three, Bangla secondary prominence in HLH and HHH is not so straightforwardly implemented; only after taking VN clusters into account could we statistically establish the longer duration of the final syllables in these two sequences.

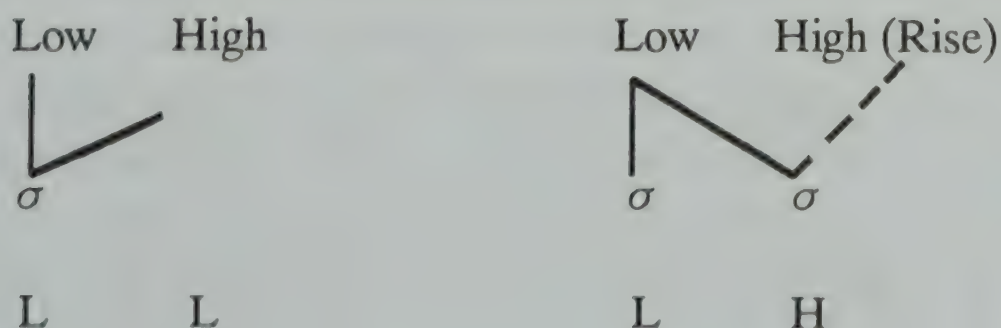
4.2 Low and Low rise on prominence

Our experiment gives clear evidence that phonetic cue of stress in all the three languages is associated with low pitch, and this fact is eminently proven by the LLX tonal contours. The phonetics of Oriya is uniform in exhibiting this correlate, as the F0 contour remained fixed,

despite changes in the foot patterns. Of course, as they have already been discussed, when the first syllable is closed, there are variations in the F0 values of pitch start and end. This tendency can very well be attributed to the extra segment in closed syllables, which affect the temporal realization of pitch.

In Assamese and Bangla also, F0 trace indicates primary prominence in the form of a significant low tone on the first syllable in a sequence of light syllables. Compared to Oriya, Bangla and Assamese behave differently in LHH patterns. The pitch range and pitch start (of the second vowel) for LHH is significantly different when compared to LLH in these two languages. As the figures in 9 and 11 show, the pitch range in LHH rises only after the initiation of the second syllable, which means that the F0 remains steady till the point of beginning of the nuclei of the second syllable and rapidly rises after that. Therefore, the pitch pattern associated with the vowel of the second syllable is a low rise. The low, which is the robust cue of prominence, is still associated with the left edge (due to spreading from the preceding light syllable), and the rise is indispensable as the right edge of the tonal contour is high. This pattern can be succinctly expressed in terms of a template, where the left and right edges are the designated low and high tones, respectively. If for a particular reason the low also spreads to the right, then the syllable has to be obligatorily associated with the remaining part of the fixed melodic material. This high tone appears as a rise, since its beginning has been delayed, and F0 being a function of time cannot be indefinitely lengthened. This phenomenon is shown in terms of diagrammatic representation below:

(19) Low and high melody in Bangla and Assamese (provisional)



The reason that in Bangla and Assamese LHH sequences, the first syllable is deprived of prominence despite its initial position is in the phonology of the two languages. What makes the second closed

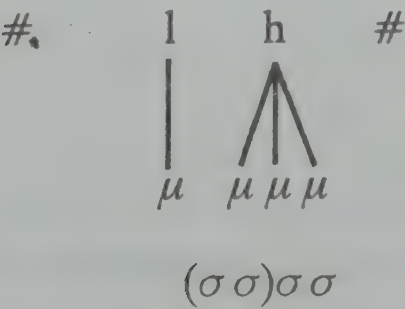
syllable the more deserving candidate for prominence in Bangla and Assamese and not in Oriya? This question brings us to the notion of quantity sensitivity and the theoretical formulation of weight - to stress principle. We adopt the moraic theory of syllable structure of Hayes (1989). Moraic theory explains the phenomenon with the help of language specific moraic structure rules. Weight by position (Hyman, 1985), a factor, which renders closed syllables heavy, is interpreted in this theory in terms of coda consonants, which are assigned mora when they are adjoined to the syllable. To put it in brief, the fact that in some languages coda consonants are moraic is a stress related effect. This is called quantity sensitivity as these languages choose to assign prominence to the heavy or closed syllables. This quantity sensitivity acoustically manifests itself in Bangla and Assamese as a low rise and greater vowel duration in the stressed syllable. Oriya is not sensitive to syllable weight, and therefore its 'lh' contour remains unaltered.

4.3 Theoretical Implications

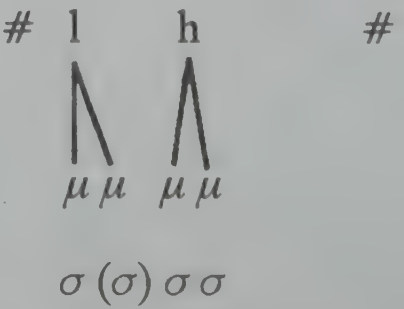
The invocation of moraic theory calls into question the representation of prominence in (19). The schema in (19) simplistically assigns low to the entire second syllable. But throughout our analysis, we have seen that when the low pitch in Bangla and Assamese spreads to the following syllable, it spreads only till the onset of the second syllable. Seen from a theoretical perspective, the moraic theory interprets this spread as linking of the low to the head mora of the prominent syllable. In this analysis, the moraic factor is more important than the syllabic factor, where the tone associated with prominence does not extend beyond the moraic head. Let us improvise on the schema in (19).

(20) Schematic representation of the nature of low-rise in Bangla and Assamese

a. LLX\ H LX \ HHX



b. LHX



[# indicates word boundary]

As the schema shows, the expanse of the low tone is restricted only till the head mora and neither the entire foot, nor the whole syllable is linked to it. In (20) a, the low is linked only to the first mora of the foot and not the second one. (20) shows that the low tone spreads only till the head mora of the prominent syllable and not any further.

4.3.1 Conclusion

Our investigation differs from earlier studies in two respects. Firstly, it is a comparative study of the three languages, and as far as possible comparable sets of words were taken for the purpose. Secondly, the present investigation has been carried out with reliable instrumental help. Needless to say, instrumental devices have an edge over the naked human ear. More so, since stress in Indian languages is a low level phonetic event and therefore, it is not easily perceptible.

Therefore, contrary to what most linguists predicted, our study shows that Oriya has no phonological attributes of prominence. Compared to Oriya, stress in Bangla and Assamese demonstrate sensitivity to phonological properties. Consequently, the observation in Chatterji (1926) about Bangla needs to be modified. Even though, we agree with Chatterji (1926) that stress in Bangla is initial, we argue that in a sequence LHH, the closed second syllable bears prominence. Prominence in this syllable is executed not only by the low rise, but also by longer vowel duration.

Our findings confirm our hypothesis that Oriya forms one group with its fixed left edge stress, whereas Bangla and Assamese form another group with their preference for stress shift due to phonological reasons. Our findings have a distinct bearing on the acoustic correlates for primary prominence in the three languages. The salient phonetic correlates of Assamese and Bengali can be summed up with the cues of low-rise and duration associated with longer syllables, not necessarily vocalic duration. Oriya has no secondary prominence, and primary prominence on the leftmost syllable is acoustically translated into low pitch on the prominent syllable and longest vowel duration.

Even though the research agenda in this project is not oriented towards historical linguistics, we can still trace the presence of a low pitch in all prominent syllables to the rule of accentuation in Vedic

Sanskrit, which might have percolated to the phonetics of Indian languages down the ages. Nonetheless, this is only a conjecture and needs to be verified even more extensively. We conducted only production experiments in order to verify impressionistic judgements. More research including perception experiments will be invaluable in throwing more light on the area.

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A GRAMMAR OF TULU (A DRAVIDIAN LANGUAGE)

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MULTILINGUAL PATTERNS AMONG TANGSAS

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ABSTRACT

This study was conducted among the Tangsa communities of Arunachal Pradesh. One of the goals of a sociolinguistic study is to find the patterns of language use in a community. This kind of study investigates the domains of language use, attitudes towards their mother tongue and other language varieties around them. An assessment of the vitality of a language throws light on whether the language will continue to be spoken by succeeding generations. These insights on language use, attitudes and vitality are very important for making decisions related to the development of language and literature of a community.

1.1 Introduction

Tangsa is a Scheduled Tribe of India. The name *Tangsa* derives from *Tang* (hill) and *sa* (people). As pointed out in the Anthropological Survey of India, The term *Tangsa* includes many communities living in Changlang district (Singh: 313). They identified and studied 15 sub-groups, namely, Havi, Jugli, Kimsing, Sangwal, Sanke, Tikhak, Tonglim, Zhongkuk, Lungchang, Lungphi, Lungri, Morang, Mosang, Muklom and Ronrang. Within Tangsa, there is another classification of Tangwa and Pangwa. Tangwa includes Lungchang, Tikhak, Muklom and Zhongkuk and they are considered to be the earliest settlers on the northern slopes of Patkai range. Those who had migrated later and settled in Manmao and Nampong circles are called Pangwa.

The present study has identified 26 linguistic varieties within Tangsa. The linguistic varieties are as follows: Mossang, Mungre, Shangwal, Ngaimong, Jugli, Lungri, Sankye, Maitai, Hatcheng, Kimsing,

Ronrang, Tikhak, Zhongkuk, Longchang, Tonglim, Langching, Haidley, Shokrang, Hara/Buti, Muklom, Hakun, Thamkok, Ponthai, Hawi, Wakkah and Tutsa. The language attitudes and use of all these 26 varieties could not be done because only twelve communities among them were represented by a village of their own. Some of these communities had migrated to India few centuries ago and others later (Singh: 313).

1.2 Procedure

A questionnaire containing 22 questions was formulated to study the language use, attitudes, vitality and prevailing bilingualism of the language varieties under Tangsa. The questionnaire was administered to only those tribes that had a separate village of their own. The investigator availed the help of natives to identify these villages and administer the questionnaires. Background research and feed back obtained from the community contributed for the construction of the questionnaire.

The questionnaire was divided into four sections: language use (questions 1-7), language attitudes (questions 8-14), language vitality (questions 15-19) and bilingualism (questions 20-22). The responses elicited are analysed in this study.

1.3 Discussion of Sample

The subjects were sampled on the basis of gender, education and age as given in the table below. The subjects interviewed from all the 12 sites have been discussed together because there were similar patterns in language use and attitudes. Though these were different languages,

Gender	Education	Young (18-29)	Middle (30-49)	Old (50 +)	Total
Male	Educated (5 +)	12	12	4	28
	Uneducated (0-5)	5	7	11	23
Female	Educated (5 +)	14	4	1	19
	Uneducated (0-5)	8	9	7	24
	Total	39	32	23	94

possibly due to similar social conditions and geographical proximity, the responses were similar and therefore could be analysed together.

It was comparatively difficult to get old subjects and educated females who were above 30 years.

1.3.1 Rationale for sampling

It was observed that all the villages had a primary school (1-5) and a middle school (6-8) in the circle headquarters. Most of them went to school up to 8th standard and those who failed to get through in the 8th standard board exam became dropouts. Since there was a primary school in every village almost everyone attended up to 5th standard. These primary schools often had teachers from their own village or nearby villages. In the primary school, the students were mostly from the same village. Therefore a student who has been only to a primary school (1-5) has very less or a short possibility of being exposed to other languages. Only those who were attending 6th to 8th standard or beyond were more exposed to other languages. Among the Uneducated (47) subjects only 6 subjects studied up to 5th standard.

Regarding age, according to the feed back from the community, those who were considered young ranged from the age group 18 to 29, those who were considered middle aged ranged from 30 to 49 and those who were 50 or above were considered old.

1.4 Site Selection

No.	Language group	No. of subjects	Village	Circle
1.	Hawi	8	Namchik Hawi	Kharsang
2.	Langching	8	Jeng Pothar	Kharsang
3.	Ponthai	9	Longkom Ponthai	Bordumsa
4.	Ronrang	8	Balinong	Kharsang
5.	Lungchang	7	New Yungchum	Miao
6.	Mossang	9	Neotan	Miao
7.	Lungri	9	Somkidong	Kharsang
8.	Tonglim	8	Lungtom-I	Kharsang

9. Mungre	5	Neirong	Miao
10. Kimsing	7	Jotinkhaike	Kharsang
11. Muklom	7	New Khimyung	Miao
12. Tikhak	9	Old Champu	Miao

1.4.1 Domains of Language Use

Domains are social contexts or social functions in which a person or community makes the choice of using a language variety instead of another variety. The responses elicited during the research related to various domains are analysed below.

1.4.1.1 Home

1. *What language/s do you use when you speak to*
- a. Your parents?
 - b. Your children?
 - c. Your brother or sister?

Domain		MT	MT, Assa.	No Comments
Home	Parents	99	1	-
	Children	78	2	20
	Siblings	99	1	-

All the subjects reported that they use their mother tongue (MT) at home with parents, children and siblings. There are a few exceptions, one Lungchang subject reported that he also uses Assamese (Assa.) at home with parents and siblings, one Lungri subject also used Assamese with children. No comments refer to those who were not married.

1.4.1.2 Village

2. *Which language(s) do you speak to friends from*
- a. Your own tribe?
 - b. Other tribes?

Domain		MT	MT, Assa.	Assa. Hin.	MT, Assa., Hin.
Village	Within the tribe	96	1	2	1

Most of the subjects reported that they used their mother tongue in the village. There were a few exceptions to this: one person each from Kimsing, Mossang, Lungchang and Tikhak said that they used Hindi (Hin.) or Assamese (Assa.) with their friends from the same tribe. Almost every other subject said that they used Hindi or Assamese with outsiders.

Domain		Assa.	Assa. Hin.	MT, Assa.	Assa., Other Tangsa	MT	Assa., Hin., Eng.	Others
Village	Outside tribe	45	19	13	10	5	2	6

Among the subjects 92% of them used Assamese with people of other tribe. Some of them used Hindi along with Assamese while some others used English or other Tangsa varieties with Assamese. It is important to mention here that the Tangsa community had to use Assamese, Hindi or other varieties instead of their mother tongue to properly communicate with people of other Tangsa tribes.

- c. What language do you speak to your neighbour?
- d. What language does a Gaon bora (village head) use during a common gathering in the village?

With respect to the language used in speaking to a neighbour and language used by the village head, all the subjects (100%) preferred their mother tongue.

1.4.1.3 School

3. What language is used for communication in the following situations?

- a. A school teacher to students?
- b. Students to teachers?

Domain		H	A	A, MT	H, A	H, E, A	H E	O	NC
School	Teacher to student	14	9	1	20	6	14	4	32
	Student to teacher	22	23	4	13	-	2	4	32
[H = Hin., A = Assa., E = Eng., O = Others, NC = No Comment]									

Majority of the respondents were of the opinion that majority of the teachers used Hindi (83%). However, among the students, languages used were as follows: Assamese (40%), Hindi (38%) and Mother tongue (MT) (6%). No comment refers to those who did not have any schooling. Here it is evident that the Hindi medium of education has contributed in promoting Hindi bilingualism among the youngsters. At the same time Assamese bilingualism prevailing in the community has made the youngsters equally bilingual in Assamese.

1.4.1.4 Market

4. When you visit a local market, what language do you use with
- a. Your own people?
 - b. Others?

Domain		MT	Assa., Hin.	MT, Assa.	Assa.	Hin.	Others	NC
Market	Same	94	-	4	1	-	-	1
	Other	2	23	2	63	3	3	4
[NC = No Comment]								

Majority of the subjects (94%) used their own mother tongue with people from their own tribe in the market. With those from other tribes, 89% of the subjects used Assamese and 28% used Hindi. No comment refers to those who did not visit a market. The market domain necessitated the use of Assamese.

5. *What language is used*

- a. In personal prayer or while performing puja?
b. By the priest / pastor in your temple / church?

Domain		MT	Assa.	MT, Assa.	Others	NC
Religion	Prayer	97	-	-	2	1
	Place of worship	81	3	3	-	1
[NC = No Comments]						

Among the subjects, majority of them used their own mother tongue (97%) for personal prayer, one Buddhist person used Pali and another one used Hindi. No comment refers to one person who does not pray at all. Regarding the language used by a temple priest or church pastor, most of them used the mother tongue (86%). In a Kimsing village, the pastor was from Mungre tribe and in a Tonglim village the pastor was from Langching tribe. In these kinds of situations where a pastor was from another tribe necessitated the learning of other language varieties to understand what was preached and this eventually lead to the increase of bilingualism or multilingualism in the community.

6. *What language do you use with*

- a. Fellow workers of same tribe?
- b. Fellow workers of other tribes?

Domain	Assa.	Assa., Hin.	Assa., MT	MT	Assa., Other Tangsa	O
Place of work	55	15	9	9	4	8
[O = Others]						

With fellow workers of the same tribe, all of them (100%) used the mother tongue. However, in communication with fellow workers of other tribes, majority of them used Assamese (88%) and some of them Hindi (19%) and Mother Tongue (19%) and other Tangsa (OT) varieties (2%) respectively. Here again as in the case of market, the bilingualism in Assamese prevails over Hindi bilingualism.

1.4.1.7 Government offices

7. *When you visit a government office, in which language do you communicate?*

Domain	Assa.	Hin.	Assa., Hin.	Others	NC
Government offices	34	25	26	5	10
[NC = No Comments]					

Among the subjects 61% of them used Assamese and 53% used Hindi. No comment refers to 10% of the subjects who did not visit government offices. In this domain there is a slightly increased use of Hindi because there were Government officials who were Hindi speakers.

1.4.2 Language Attitudes

1.4.2.1 Opinion about language varieties

8. *How do you associate the following attributes with the language varieties that you know?*

Attributes	MT	Assamese	Hindi	English	No Comments	Others
Sweet	43	17	28	6	2	6
Harsh	-	15	13	29	6	36

In the opinion of the subjects with reference to a variety being sweet, 5% include subjects who did not show any response. 3% of the subjects reported that all are good. No comments refer to subjects who knew only their mother tongue and therefore could not make any comments about other languages, among them 4 subjects commented

that their mother tongue was sweet. When it came to opinion about what language was harsh? 6 subjects did not make any comments about it. Among the subjects who said that English was harsh commented that they said so because English was difficult for them to learn.

1.4.2.1.1 Opinion about usefulness of language varieties in business and employment

9. *How far do you consider your mother tongue and other languages useful for the following?*

	Hin.	Assa., Hin.	Eng., Hin.	Assa.	Eng.	NA	Others
Business	26	8	-	54	1	5	6
Jobs	33	2	7	19	24	9	6

In relation to business, like marketing, majority of the subjects (54%) felt that Assamese was more useful. While few others felt that Hindi (26%) was more useful and a minority (8%) felt that both Assamese and Hindi were equally useful. Always for business the Tangsa community had to depend on the neighbouring state of Assam and Assamese speakers.

1.4.2.1.2 Choice for books and radio

10. *What is your choice about a language variety to obtain books and listen to radio programs?*

	MT	Hin.	Kimsing	Eng., Hin.	Assa.	Eng.	NC	Others
Books	51	11	3	3	7	6	14	5
Radio	58	10	5	1	5	1	14	-
[NC = No Comments]								

Lungchang subjects were not asked about the radio program because the radio program was in Lungchang. A considerable percentage of the subjects preferred to have books and radio programs

in their own mother tongue. Comparatively the interviewed subjects preferred to have books and radio programs in Hindi than Assamese. This is possibly due to the fact that the above subjects were educated and since the medium of education was Hindi / English, they preferred to use Hindi. Some members of the Tangsa community feel the need to come up to the level of the mainstream society in education and employment and in that aspect they feel the need to be fluent in using Hindi and English.

1.4.2.1.3 Opinion about usefulness of mother tongue

11. *How useful is your mother tongue for the following purposes? (Very much, somewhat, not at all)*

a. For creating a sense of unity among your tribe.

	Very much	Some what	Not at all	No response
For Unity	96	1	-	3

Majority of the subjects responded that their mother tongue was very useful for creating a sense of unity among the people of their own tribe.

b. For communication with other tribes.

	Very much	Some what	Not at all	No response
Communication	22	43	26	6

A considerable percentage of them responded that their mother tongue was somewhat useful (43%) and some of them were not so confident of the usefulness of their mother tongue in communicating with other tribes within Tangsa. Previously, when the subjects were asked about their choice of language with members of other tribes in the market and place of work they responded differently. The previous responses showed 88%-89% of subjects using Assamese with members of other tribes in the market and place of work. Their positive attitude towards the development of their mother tongue is obvious through their responses.

1.4.2.1.4 Opinion about a variety for spoken purposes

12. *In what language would you like to speak mostly?*

	MT	Hin.	Other Tangsa	Assa.	Others
Responses	65	11	12	10	2

Majority of the subjects (65%) preferred to speak in their mother tongue. Among the subjects who preferred to speak other Tangsa varieties, the responses were as follows: Kimsing (6%), Ronrang (2%), Mossang (3%).

1.4.2.1.5 Opinion of youngsters about the variety for speaking

13. *In what language would your youngsters like to speak?*

	MT	Assa.	Hin.	Assa., Hin.	Others
Responses	58	17	14	4	7

Other than their mother tongue, most of the youngsters preferred to speak in Assamese (17%) and Hindi (14%).

14. *When you meet your people in Tinsukia (Assam), in what language would you like to speak?*

All of them (100%) responded that they would like to use only their mother tongue with their own people in Assam.

1.5 Language Vitality

Language vitality refers to the overall strength of a language and the possibility of continuing it through the coming generations. To study the vitality of Tangsa varieties, the following questions were administered and the elicited responses are given below.

15. *Do all the children of this village speak the mother tongue?*

All the subjects (100%) of them said ‘yes’.

16. *Which is the first language that the children of your village learn to speak?*

Almost all the subjects (99%) responded that it was the mother tongue, except a Kimsing subject who said it was Assamese.

17. *In what other languages can the children of this village communicate?*

	Assa.	Assa., Other Tangsa	Assa., Hin.	Assa., Hin., Other Tangsa	Assa., Hin., Eng.	Others
Responses	18	3	55	5	11	8

The term other languages refers to other Tangsa varieties and languages like Assamese, Hindi and English. The subjects made it clear that only a small percentage of children could communicate in other Tangsa varieties. Among the responses, 94% of the subjects reported that their children could speak Assamese and 72% of the subjects said that their children could speak in Hindi. 11% of the subjects said that their children could speak English. It was observed that the youngsters are more attracted to Hindi movies and songs than Assamese movies.

18. *Do you think your youngsters will continue speaking your language?*

Most of the subjects (96%) said ‘yes’. 3% of the subjects said ‘no’, the subjects who said ‘no’ were from Mosang, Lungri and Kimsing. One person said that he did not know and yet another person did not make any comments about it. Possibly the growing interest of youngsters in learning Hindi and English might have created a seed of doubt in a minority about the possibility of youngsters continuing to speak their own language.

19. *Do the youngsters speak the language as good as the older generation?*

90% of the subjects said ‘yes’ and 10% of the subjects said ‘no’. This is probably because the youngsters were not familiar with certain words used in some of the domains that were known to the older generation and some of the youngsters used borrowed words to fill in the gaps while communicating.

1.6 Professed Bilingualism and Proficiency

20. *What all languages do you know?*

Majority of the subjects were found to be bilinguals in Assamese (96%), followed by Hindi (78%) and other Tangsa varieties. Among the responses related to bilingualism in other Tangsa varieties, the order of

responses was as follows: Mosang (54%), Kimsing (48%), Muklom (23%), Jugli (28%), Lungchang (19%), Ronrang (10%).

Languages	MT	Assa.	Hin.	Eng.	Other Tangsa	Other Non-Tangsa
In percent	100	96	78	38	87	17

21. *How proficient are you in the languages that you know?*

Skills	Proficiency	Languages					
		MT	Assa.	Hin.	Eng.	Other Tangsa	ONT
Understand	Good	100	83	43	13	68	4
	Average	0	8	18	11	25	3
	Little	0	2	12	15	22	14
Speak	Good	100	79	30	0	60	2
	Average	0	12	28	13	18	3
	Little	0	2	16	17	35	6
Read	Good	30	8	23	28	13	1
	Average	1	3	19	6	11	1
	Little	17	35	14	4	24	1
Write	Good	23	8	25	28	11	1
	Average	1	1	16	4	3	1
	Little	20	76	19	6	23	2
[ONT = Other Non-Tansga]							

Here the ability to comprehend, speak, read and write well is analysed. Among the subjects, majority of them could understand (83%) and speak well (79%) in Assamese. Comparatively, Hindi was

not so easy for them to understand (43%) and speak well (30%) and regarding English it was a bit more difficult to understand (13%) and speak well (0). With regard to reading and writing, the subjects were comparatively proficient in Hindi and English than Assamese, probably because in schools they were exposed to reading and writing Hindi (Devanagari script) and English (Roman script). Only a few of them had good proficiency to read and write Assamese. Some of them have made attempts to write their own mother tongue using the Roman script.

22. *Where did you learn the languages you know?*

	MT	Assa.	Hin.	Eng.	Other Tangsa	ONT
Family	100	-	-	-	-	2
School	-	37	61	39	-	1
Neighbourhood	-	-	-	-	47	1
Friends	-	11	1	-	25	9
Market	-	14	1	-	2	-
Village	-	32	5	-	9	2
Other	-	-	-	1	20	2
No Comment	-	5	23	60	-	-
[ONT = Other Non-Tansga]						

All the subjects responded that they learned their mother tongue at home. Most of the subjects learned English (39%) and Hindi (61%) at school. As far as Assamese is concerned, more than school (37%), it was from the village (32%), market (14%) and friends (11%) that more people learned it. Most of the subjects learned other Tangsa varieties from neighbourhood (47%) and friends (25%).

1.6.1 Assamese bilingualism on the basis of gender and age

As a whole the community is bilingual in Assamese, irrespective of the difference in age or gender. However, a few among old women knew only their mother tongue.

Gender	Age	No. of Subjects	Bilingual
Male	Young	17	17
	Middle	19	19
	Old	15	15
Female	Young	22	22
	Middle	13	12
	Old	8	5

1.6.2 Hindi bilingualism on basis of gender and age

Gender	Age	No. of Subjects	Bilingual
Male	Young	17	17
	Middle	19	16
	Old	15	9
Female	Young	22	22
	Middle	13	8
	Old	8	1

The youngsters are comparatively more bilingual in Hindi than the older generation. This could be more due to their exposure to Hindi medium of education and influence of modern Hindi media.

Comparatively the educated people are found to be more bilingual in Hindi than the uneducated. As far as the youngsters are concerned, education has not significantly affected the bilingualism in Hindi. This would be because of the influence of media and interaction with the educated friends. Among the uneducated, the responses are as follows for sources of learning Hindi: the village (5 subjects), village and market (1 subject), market (5 subjects), through friends (1 subject), through media (1 subject). Recently, many villages have evening schools that provide opportunity even to the Uneducated to learn.

Among 46 subjects interviewed about their choice of tribe for marriage, all of them said they could marry from any tribe. Among

Gender	Age	Education	No. of Subjects	Bilingual
Male	Young	Educated	12	12
		Uneducated	5	5
	Middle	Educated	12	11
		Uneducated	7	5
	Old	Educated	4	4
		Uneducated	11	5
Female	Young	Educated	14	14
		Uneducated	8	8
	Middle	Educated	4	4
		Uneducated	9	4
	Old	Educated	1	1
		Uneducated	7	-

them, 28 subjects said that the marriages were not arranged but ‘love-marriages’, 8 subjects said that those were an arranged marriage. This also could be an added reason for them to become more bilingual in other Tangsa varieties. In many villages, married couples are found to be bilinguals in other varieties due to inter-marriage relations with other tribes.

1.7 Conclusion

The present study on language attitudes, language use and vitality supports the fact that the Tangsa communities have positive attitudes towards their mother tongue and use it in their home and village domains and in other social contexts with people belonging to their own tribe. Assamese is used in most of the social contexts with those who are from other tribes. The Tangsa varieties possess a good vitality and are used by the younger generation now. The Tangsas are a multilingual community and most of them are capable of using Assamese and Hindi. Some of them are capable of speaking the neighbouring Tangsa varieties in addition to Hindi and Assamese. The present day medium of education and influence of the modern media has substantially contributed for the increase of Hindi bilingualism among the youngsters.

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JEWISH MALAYALAM¹

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1. Introduction

Malayalam is the official language of modern Kerala on the west coast of South India. The earliest documents in Malayalam are inscriptions of royal grants to temples and communities of traders from the eighth to the twelfth centuries. During the early years of the eleventh century, a grant known as "the Jewish copper plates" was given by King Bhaskara Ravivarman to the trader Joseph Rabban. These copper plates are the first substantial evidence for the socio-economical place that Jews occupied in Kerala for at least one thousand years.² In fact, the history of Jews in Kerala parallels the history of the Malayalam language itself. Except for inscriptions and royal grants, no linguistic evidence of Malayalam survived from the beginnings of Malayalam language, and the Jewish copper plates are considered an important document for the study of early Malayalam. The history of Malayalam literature begins in the twelfth century, and by the fourteenth century, Malayalam literature becomes a mature and distinct literary entity.³

From the fourteenth century onwards, a vast literary corpus in Malayalam was preserved. It is rich and dynamic, yet largely unexplored by western philologists and linguists. Pre-modern Kerala was a literate multi-cultural society which developed several literary

1. This research was partially supported by the Israel Science Foundation Grant # 032-2403 to Edit Doron.

2. For a historical study of the copper plates, see Narayanan, 1972 and 1996; for a linguistic study of Old Malayalam inscriptions, see Sekhar, 1951.

3. For a survey of Malayalam literature, see Freeman, 2003; Chaitanya, 1971.

corpora. One such corpus is that of the Jews in Malayalam language.⁴ Many of the compositions in the Jewish corpus of Malayalam literature are hardly intelligible, even for scholars of Malayalam language. This is so partly because Kerala Jews, like some other Jewish communities in the Diaspora, had their own distinct language or dialect and wrote their literature in a Jewish language, Jewish Malayalam.

When I began my research on the literary corpus of Kerala Jews during 2004, there were very little data about the spoken language of Kerala Jews. Their dialect was recognized as unique even in the early 1950's,⁵ but it was only much later, in 2003, that the first attempt to describe Jewish Malayalam was taken up by Scaria Zacharia.⁶ Zacharia's description, however, is far from being exhaustive. It is based on data collected from the corpus of women's songs, and on some general remarks about Jewish Malayalam. Zacharia does not refer to the verbatim translations of Hebrew liturgy, or to the language currently spoken by Kerala Jews living in Israel. In the absence of documented speech of Kerala Jews, it seemed impossible at the time to seriously probe into the nature of Jewish Malayalam, and its position on the spectrum of Jewish languages.

Malayalam is a rich language with many regional and caste varieties. In the context of Kerala speech varieties, Jewish Malayalam is merely another "caste-lect" or "religio-lect", like, say, Arabi-Malayalam. However, once a linguist is acquainted with the study of Jewish languages, the Malayalam variety spoken and written by Jews may be taken as a typical Jewish language, with distinctive linguistic features.⁷ As there is no fixed set of criteria for defining a Jewish language, I shall first refer to the basic scheme of four points as laid down by Bar-Asher (2002). Hary's (2008) extended scheme is most insightful, and along with it I may add some more observations concerning Jewish Malayalam.

4. For the corpus of Jewish literature in Malayalam, see Zacharia 2005 and Gamliel, 2005; for a survey of the literature of minority groups in Kerala, see Gamliel, 2008.

5. Bar-Giora, 1953:53, 62.

6. Zacharia, 2003.

7. I am indebted to Benjamin Hary for kindly sharing with me the first chapter of his forthcoming book (2008). It is only after reading it that I realized the importance of documenting and analyzing Jewish Malayalam.

I wish to stress that during the many years of studying the community by anthropologists and historians, there were no attempts to document the language spoken by Kerala Jews. It is only now, fifty years after migration, that the importance of documenting the Malayalam spoken by Kerala Jews living in Israel is recognized by Jewish research institutes. In spite of the loss of oral traditions and linguistic data that died along with the elderly people who migrated to Israel, and against all odds, Jewish Malayalam is still spoken by a few dozens of people, mostly in their sixties and seventies, but even younger people still converse in Malayalam. After linguistic data are collected and analyzed, we may be able to differentiate between standard Malayalam, Jewish Malayalam and Israeli Malayalam.

The present study, then, is based on restricted data, consisting of a. the literary corpus of Jewish Malayalam as represented in the women's notebooks,⁸ b. written translations (*tamsir* or *arttham*) of Hebrew liturgy (1877; 1892) and Mishna (PA), and c. samples of spoken Malayalam and oral traditions collected by me from Kerala Jews living in the Jerusalem area.⁹ At the current state of affairs, the present analysis is limited, and incorporates very basic and initial observations regarding Jewish Malayalam.

2. Jewish Malayalam Defined

According to Bar-Asher, a Jewish language may include at least one of the following criteria: verbatim translations of pan-Jewish texts; references to pan-Jewish texts in daily speech; Hebrew and/or Aramaic components; and archaic components of the host language.¹⁰ Jewish Malayalam may certainly be defined according to these criteria:

8. Some of these songs were published in Zacharia, 2005 and translated into Hebrew under Zacharia's guidance by Gamliel (2005). For more about the Jewish Malayalam women's songs, see Johnson, 1975 and 2005; Daniel and Johnson, 1995; Jussay, 2006.

9. I am mostly indebted to Yosi Oren from the village of Taoz, who kindly shares with me his rich reservoir of jokes, proverbs, allegories and tokens of speech in Jewish Malayalam. Moreover, the Association of Cochin Jewry organizes weekly meetings for studying the modern Malayalam script and speaking in Jewish Malayalam. It is during these meetings that I came to realize the peculiarities of Jewish Malayalam when compared to standard Malayalam and to the Angamaly dialect, which I have studied between the years 2003 and 2007.

10. Bar-Asher, 2002: 81-88.

2.1 Verbatim Translations

There are only three texts, as far I am aware of, that were printed or hand written with verbatim translations of Hebrew texts. One is the text printed in 1877 by Daniel Yakov HaCohen in Cochin. The second was hand written by Elia Chaim Hallegua (1892), a scribe from Ernakulam. The third text, Pirqey 'abot (PA), was transcribed by an anonymous scribe.¹¹ There are also translations of Hebrew para-liturgy in the women's notebooks, some are paraphrases, and others are more literal.¹²

The translation of PA represents an oral tradition called by Kerala Jews *tamsir*. The *tamsir* was recited along with the sacred Jewish texts studied by men at home. PA is but one of these texts, and according to community members the *tamsir* would be recited along with many other texts, such as the scroll of Esther, Song of Songs, Mishnah and so forth. The translations of paraliturgical texts combined with some biblical passages (Lamentations and Jeremiah) represent, I believe, a slightly different tradition, for they combine *tamsir* texts like the biblical passages mentioned above, with paraliturgy.

The translations in the women's notebooks are called *arttham* ("meaning"), and they were meant for performance, rather than recital and study. These translations are more concerned with aesthetics; they have tunes and are often paraphrases rather than pedantic translations.¹³ The *tamsir* and *arttham* translations differ in morphology and syntax. The *tamsir* profusely uses archaic verbal forms with person-number-gender (PNG) markers, e.g. *kaikonṭān* (as opposed to

11. Daniel Yakov HaCohen founded a publishing house in Cochin, which was active during the late nineteenth century and the early twentieth century. Elia Chaim Hallegua was a scribe from Ernakulam. PA is a manuscript recently found in the possession of Sami Koder from Binyamina. It is a verbatim translation of Pirkey Avot - Hebrew and Malayalam side by side. Pirkey Avot was studied among Malabari Jews, who could recite it by heart along with the Malayalam translations. The Archives of the Language Traditions Project in the Hebrew University preserve a recital of the two first chapters of Pirqey Avot with *tamsir* (38: 689). The recitals are by Itzhak Hai Yoseph (see Forsström, 2006).

12. See for example the two translations for "Four Crowns" ('arəbbə'āh kəlilin) Zacharia, 2005: 101-2, and notes 190-1.

13. See Zacharia, 2005: 97-100, and notes 188-190. See also Gamliel, 90-104, and notes, 201-209.

kaikon̄tu without PNG marker), "received" for *qibbel* (PA: 1); the use of such archaisms is quite common in New Malayalam literature.¹⁴ Relative to the *tamsir*, the *arttham* translations are much closer to the spoken language. This is even apparent by the tokens *tamsir* and *arttham*; the former is most likely an adaptation of the Jewish-Arabic word *tapsir*, while the latter is a Malayalam word of Sanskrit origin. Roughly speaking, these two types of translations represent respectively male-oriented and female-oriented translation ideologies.

2.2 References to Pan-Jewish Texts in Daily Speech

Kerala Jews had a substratum of pan-Jewish texts, from the daily prayers to Mishna. Naturally, they would insert references from these texts into certain mundane expressions. For example, if somebody were turned away empty handed after asking for a loan, he would refer to the incident by: *avanū pōteā et yadeka cēlli*, "He told me *poteah et yādēka*¹ (open your hand)", thus inserting a reference from the blessing over food (*birakkat hammāzon*). When referring to a glutton, a pun on the Passover Haggadah is used: *ekilānnu etāyam* (fed us with the ocean), i.e. switching from *man* (*mān*, the mythical food bestowed on the Hebrews in the desert) to *yām* (sea).¹⁵

2.3 Hebrew and Aramaic Components

The Hebrew component is present in all linguistic registers of Jewish Malayalam - from the oldest songs in the notebooks through *tamsir* and *arttham* to the speech samples and oral literature collected by me in Israel. My impression is that the Aramaic component is much less conspicuous.

In the oldest Jewish Malayalam songs (the *kāṇvvē* songs that were likely composed before the fifteenth century), many obscure lexemes may be derived from Hebrew.¹⁶ These are more abundant in

14. Ramaswami Ayyar, 1939: 166.

15. The transliteration that I use here onwards is based on Indic transliteration, and it adheres to the Malayalam script. There is one phoneme which is unrepresented in Malayalam script, an unvoiced velar fricative, /k/. This phoneme is hardly ever used in Malayalam words, but it is quite consistently used in pronouncing the Hebrew gutturals /h/ and /q/, and sometimes also /k/. For a detailed analysis of the pronunciation of Hebrew phonemes by Malayalam speakers, see Forsström, 2006: 9-33.

16. For a study of these songs, see Gamliel, 2006 and 2008a.

the songs than transparent Hebrew lexemes, and only a comprehensive linguistic research of Jewish Malayalam may serve as a firm basis for establishing the meanings and derivations of these obscure lexemes.¹⁷ There is at least one case in which an Aramaic lexeme is clearly seen, *rabban* (III18:1c²).¹⁸ The songs published by Zacharia (2005) are of a later period,¹⁹ and they contain many clear Hebrew lexemes, some of which are found also in the speech samples. Zacharia has listed the Hebrew lexemes appearing in this publication with Malayalam definitions.²⁰

The *tamsir* and *arttham* translations abound in Hebrew components, and they naturally served as reservoirs of Hebrew words. It is important to stress that the women who transmitted the songs had access to translations, for *arttham* translations are found in all the major notebooks. It is very likely that there was not a very significant difference between male-oriented speech and female-oriented speech in this regard.²¹

The speech samples collected fifty years after detachment from the host language are a complex of various components. As other immigrants to Israel who still speak their Jewish language, Kerala Jews insert two types of Hebrew lexemes into their Jewish Malayalam speech - Old Hebrew lexemes and Modern Hebrew lexemes.²² The Modern Hebrew lexemes occasionally stand for terms that speakers of Modern Malayalam would express in English, e.g. *koppěšŭ* (*hopēs*) for *livŭ* (leave) to denote leave from school or work.²³ The speech of those who

17. For example: *sīmiyavěřě* in II61:1b², may be derived either from Hebrew *sīma* (joy) compounded with III person plural pronoun: "those who are joyful", or from Sanskrit *sīma*, "border, limit" compounded with *věre*, "separate" to form an adverbial compound "without limits". In both cases, the Malayalam element is too blurred to afford for a sound derivation.

18. To assist the reader in finding the exact locations of words in the songs I refer to song number: verse + line numbers.

19. This I determine based on comparing the generic features and verbal forms of different groups of songs (Gamliel, 2008a).

20. Zacharia, 2005: 205-7.

21. Compare with the situation of Jewish languages elsewhere: Henshke, 2008: 4-5.

22. See Held, 2007; Henshke, 2008: 3-4.

23. I refer here onwards only to Hebrew lexemes inserted into Malayalam speech, for while speaking Hebrew the lexemes retain closer affinity to the Hebrew phonetic system.

migrated later on during the 1970's is different, for they would choose the parallel English lexemes as their fellow Malayalam speakers in Kerala would do. It is remarkable that the choices of Modern Hebrew lexemes would be noted as foreign to Malayalam, and corrected into the parallel English terms, which some Jewish Malayalam speakers take as part and parcel of Malayalam language.

However, contemporary speakers of Jewish Malayalam retain Old Hebrew components in their speech. Hebrew lexemes are often agglutinated with nominal endings e.g. *torāna* (the Torah + acc.), compounded with Malayalam nouns e.g. *mor-sūra*, "likeness" (face + *surāh*); *miniyān kūṭṭalū*, "joining the quorum" (to denote Bar Mitzvah), or compounded with auxiliary verbs e.g. *miniyān kūṭi*, "had his Bar Mitzvah"; *śālomāyi*, "died" (*śālom* + past of *ākuka*, "to become"); *sārappēttu*, "suffered" (*śārāh* + past of verbalizer *pēṭuka*).²⁴ Such combinations appear also in the corpus of Jewish Malayalam folksongs, e.g. *olāmasseyilulla*, "of this world" (*olām hazzēh* + *y-il*, locative + *ulla* adjectival participle); *akkānimār* (*hākām* + *-im* Hebrew plural marker + *-mār*, Malayalam plural marker).²⁵

Malayalam language absorbed many lexemes from Arabic and Syriac through the speech and literature of Muslims and Christians. In this unique linguistic surrounding, the Hebrew component may overlap Arabic and Syriac components, e.g. *olām* (*olām*) and *ālam*, "world"; *māsiyā* (*māsiyāḥ*) and *mašīha* "Jesus, the anointed one". One may observe that the pronunciation and consequently the spelling of such lexemes are different. Such Arabic and Syriac words are quoted in the Malayalam dictionaries, taken as integral part of Malayalam and standardized in their orthography. However, while examining the literature of Muslims and Christians, the Semitic lexemes may be represented by alternate orthographies, as is the case with Hebrew lexemes in the Jewish literature.²⁶

24. These words are taken from samples of contemporary Jewish Malayalam speech. Italicised words are Hebrew components.

25. Zacharia, 2005: 69; 205.

26. Even in standardized publications of Christian and Muslim folksongs, one might find alternating orthographies of Semitic words. See for example *ēvus-seppū*/ *yauseppu*, "Joseph"; *aurāham*/ *avurāham*, "Abraham" (Lukas, 1910: 21-23).

2.4 Archaic Components of the Host language

In Malayalam the dative for nouns or pronouns ending in *-an* is *-ŭ*, which evolved out of the older dative form *-ukḱŭ*.²⁷ In Jewish Malayalam the ending is *-ikkŭ*, e.g. *avanikkŭ*, "for him" (= *avanŭ*); *jivanikkŭ*, "for life" (= *jivanŭ*). According to Ramaswami Ayyar, the dative ending *-ukḱŭ* disappeared from Malayalam by the thirteenth century. The dative *-ikkŭ* for nouns and pronouns ending in *-an*, is widespread through both spoken and written Jewish Malayalam. More components that are archaic might be found in the spoken language, but due to the scarcity of data concerning spoken Jewish Malayalam, it is currently difficult to pinpoint such archaic forms in the spoken language. I shall elaborate on some possibilities below.

In the written language, there are various archaisms in addition to the dative ending *-ikkŭv*. One such archaic component is the periphrastic past that appears in the *kāṇavvŭ* songs.²⁸ However, the distribution of the periphrastic past is limited to a certain group of songs in the corpus, and it has gone out of use sometime in the remote past. The *tamsir* found in writing (PA) and the translations of Hebrew paraliturgy abound in archaic verbal forms displaying PNG markers, e.g. *avara paraññār*, "they said" (= *avar paraññu*).

3. More Peculiarities of Jewish Malayalam

According to Hary, there are seven more characteristics of Jewish language varieties: Hebrew orthography; competing orthographic systems; unintelligibility; adaptations of "non-Jewish" eposes into Jewish imagery; displaced dialectalism; awareness of speakers of their Jewish language as separate from the host language; a pan-Jewish reservoir of Jewish images, formulations, concepts and icons.²⁹ Each of these characteristics finds its expression in Jewish Malayalam:

3.1 Hebrew Orthography

Until the time of migration to Israel, Jewish Malayalam was written in Malayalam script. It was only after migration to Israel that

27. Ramaswami Ayyar, 1936: 27-8; Sekhar, 1951: 71-5.

28. See Gamliel, 2006: 565, fn.20; and 2008a.

29. Hary, 2008: 15-20.

the need arose to transcribe Jewish Malayalam into Hebrew script, for the younger generation became illiterate in Malayalam. Such transcriptions of Jewish Malayalam into Hebrew were compiled for performative reasons such as singing during community celebrations.³⁰ It is noteworthy in this respect (and perhaps unprecedented in the Jewish Diaspora), that Hebrew was transcribed into Malayalam in many of the notebooks that were copied down in Kerala before migration.³¹

3.2 Competing Orthographic Systems

Malayalam is a Dravidian language, which absorbed into its lexicon a massive amount of Sanskrit, an Indo-Aryan language. Until the fourteenth century, Sanskrit words and texts were represented by orthography conforming to Dravidian phonology. This is called "*saṅghātākṣara*", i.e. a single grapheme represents all allophones (which may be voiced or unvoiced according to their phonetic environment). This is the state of affairs in Tamil even today.³² From the fourteenth century onwards, the Malayalam script and pronunciation gradually confirms with Sanskrit phonology.³³ Thus, especially in the "caste-lects" of Malayalam, alternate spellings of Sanskrit words and hypercorrections of Dravidian words are a common practice. In Jewish Malayalam, alternate spellings of Sanskrit and Dravidian words abound along with alternate spellings of Hebrew words. Moreover, hypercorrections become a means to create new lexical items peculiar to Jewish Malayalam.

In the women's notebooks, Sanskrit words might be represented either by Dravidian or by Sanskrit orthographic systems, e.g. *putti/buddhi*, "wisdom". In addition, Malayalam words might be represented in different ways, depending on the scribe's affiliation to standardized Malayalam, e.g. *kōti/koli*, "cock". When it comes to Hebrew words, orthography is subject to variation in a larger scale, e.g. *b̄arīt > varitum/ v̄aritum/ bh̄aritum/ baritum*. Sanskrit words are subject to a relatively high degree of hypercorrections, e.g. *udikkuka > ulikkuka*

30. See Isenberg, Daniel and Dekel, 1984.

31. Especially so in J1, but occasionally also in other notebooks.

32. See Krishnamurti, 2003: 85-87.

33. See Lilatilakam, 1:11, and Leelavathy, 1980: 55.

"to rise, shine". The process of hypercorrection might result in a new lexical item, e.g. *udārata*, "malice" *zādon* (< *udāsinata* negligence). This is evidence of the inter-relations between oral and written transmission, and between standardized, male-oriented speech and regional, female-oriented speech.³⁴

Furthermore, Sanskrit lexemes might be represented in Jewish Malayalam according to both Dravidian and Sanskrit phonetic systems. An example is the word for the silver "finger" (*ḷeṣabba*¹) used for reading the Torah, *tūṣi* (> *sūci*) vs. the word for needle *sūci*. The former represents the older stage of absorbing Sanskrit into Malayalam.

3.3 Unintelligibility

The issue of intelligibility is complicated for several reasons. First, texts composed in "caste-lects" of Malayalam are unintelligible to "outsiders", and require much glossing and notes when printed and published. The Jewish Malayalam texts are no exception to this. Second, the spoken language by Kerala Jews today is somewhat different from spoken Malayalam not only due to its Jewish orientation, but also due to the fifty odd years of speaking far from the natural environment. Hence, some of its peculiarities might be attributed to changes over time, which are not particularly Jewish. An example for this is the kinship term, *perakkiṭāvū*, "grandchild", which is replaced by *perakkutti* in Modern Malayalam. Another example is the verb used for giving birth, *pěrr-*, which is replaced in contemporary Malayalam by *prasavikk-*.

Third, it might very well be that speakers of Jewish Malayalam, at least some of them, could easily "switch codes" when they would speak to non-Jews. Thus, instead of saying *sārappēttu* in Jewish Malayalam, they would say *kaṣṭappēttu* in standard Malayalam.³⁵ Fourth, Kerala Jews were mostly traders. They could use Jewish Malayalam as a secret language during trade, e.g. using Hebrew alphabet instead of numbers, as in *kāphū bet* (the twentieth and second letters of the Hebrew alphabeth) for *irupattiraṇṭu* (twenty-two).

34. See also grammar notes by Zacharia (2005: 129-130).

35. This fact was verified by several informants. See also Bar-Asher, 2002: 79 for the distinction between dialect and language based on unintelligibility.

3.4 Adaptations of non-Jewish Eposes into Jewish imagery

Adaptations and translations of "non-Jewish" eposes are very limited in the currently available literary corpora. There might have been oral traditions, which no one is aware of so far.³⁶ However, there are generic and aesthetic conventions adopted into the corpus of Jewish Malayalam songs. Some of these conventions are typical of Malayalam folk literature, as Zacharia notes.³⁷ In several songs, however, conventions of old Malayalam literature are conspicuous.³⁸

3.5 Displaced Dialectalism

Migrated or displaced dialectalism is clearly expressed in the spoken Malayalam of Kerala Jews. Even at this initial stage of studying Jewish Malayalam, a strong linguistic link with North Malabar, an area heavily populated with Muslims and Nayars, is apparent, in spite of the fact that there are no traces left for a Jewish settlement in that area.³⁹ This is supported by some kinship terms common to Jews and Muslims, like *umma*, "mother"; *vāvā* and *bāppa*, "father"; *kākka*, "elder brother". Such kinship terms significantly differ from the Christian and Hindu terms (*amma*, *appan/accan*, *ceṭṭan*, respectively). Moreover, the terminology of socio-political terms suggests Nair social organizations: *taravātu*, "ancestral home"; *kārṇor*, "Eldest male member"; *taravāṭicci*, "Eldest female member".⁴⁰ There are also some dialectical forms typical to the Malayalam spoken by Muslims. The present tense marker of standard Malayalam, *-unnu*, is pronounced *-aṇṇu*, e.g. *irikkaṇṇu*.⁴¹ This dialectical form finds its written expression in the women's notebooks.

36. Some of the oral stories, which I heard in passing, suggest such adaptations. After collecting and analyzing the materials more can be said about this issue.

37. Zacharia, 2005: 131-5.

38. Gamliel, 2006 and 2008a.

39. During the nineteenth and twentieth centuries, all Jewish communities of Kerala were clustered around central Kerala. Except for Parur, which was under the sovereignty of the Travancore king, all Jewish settlements were under the sovereignty of the Cochin king. However, there are some references to an older settlement in Culicut, see Gagin, 1934:18; Johnson, 1975:60-1.

40. See Logan, 1887: 131-2. See also Krishna Ayyar, 1938: 50-53, and Narayanan, 2006: 111-128.

41. In the absence of any systematic study of Arabi Malayalam, I turn to Basheer's novel, *Pāttumayutē Āṭu*, for reference. Basheer represents in orthography the spoken dialect of his characters. Thus, for example, the emphatic present form for *cēyyunnatū* is transcribed as *cēyyanatū* (Basheer, 1959: 74).

In addition, the socio-religious organization is expressed by some titles and terms suggestive of Jewish autonomous life. There is a term for rabbi - *mölyārŭ* - that is used in speech and in writing.⁴² The *mölyārŭ* would be in charge of teaching, conducting rituals and advising on religious and inter-communal matters. He was also responsible for appointing and instructing ritual slaughterers and circumcisers. There would be a council of elders (*kāṛṇormārŭ*), the *yogaṁ* (assembly), to bestow authority on the *mölyārŭ*, and appoint qualified men to the position of *paṭṭasthānaṁ* (cantor-rank). In PA, the word "rabbinate" (*rābbanūt*) is translated by the term *accattānaṁ*, "priest-position" (*accan*, "priest" + *sthānaṁ*, "position"), but it seems in this case to be a term invented for the purpose of verbatim translation.⁴³

3.6 Awareness of Speakers of their Language Variety

Terminology for standard vs. regional language varieties exists in Malayalam, and Arabi-Malayalam is perhaps the most well known. Apart from that, there is currently the distinction between *accati bhāṣa*, "standard (printed) language" and *nāṭan bhāṣa*, "regional language". There are other notions too, such as *pacca* ("raw") Malayalam. Kerala Jews in Israel refer to their language as "broken Malayalam" (*sāpāh maqulqālet*), "corruption" (*šibbuš*), "old language" (*palaya bāṣa*) and *malbārit* (*malbārit*).⁴⁴

3.7 Pan-Jewish Reservoir of Sacred Texts

The Hebrew literary corpus of Kerala Jews was described and analyzed in several publications.⁴⁵ Like many other Jewish communities in the world, reading Bible and Mishna and reciting Hebrew liturgy was a daily matter. Consequently, the literary corpus of Malayalam women's

42. *mölyārŭ* < *mutaliyār*, "the leader". In the Muslim dialect, *musaliyār* (s < t) is the term used to denote a religious master.

43. It is claimed that Kerala Jews did not have rabbis (Katz and Goldberg, 1993: 83). The existing terminology in Jewish Malayalam, as well as oral and textual evidence about the daily life and socio-religion activities guided by the *mölyārŭ*, implies that this is a wrong notion that should be reconsidered and re-examined.

44. While teaching Malayalam script to Malayalam speakers in Mesillat Zion, they would claim occasionally that this word or sentence is "our language" while others are not.

45. Fischel, 1981; Bar-Ilan, 1992; Seroussi, 2000.

songs is anchored in the Bible and the Midrash.⁴⁶ There are also examples of daily speech and oral literary forms still remembered by Kerala Jews in Israel, that relate to sacred Jewish texts. For example, to denote someone who is very pedantic Kerala Jews would use a token of speech: *avanŭ kīrīkkum ſurēkum nokkaṇṇavanŭ*, "He is one who examines punctuation marks (*ḥiriq vəṣuruq*)". Another example is the nursery rhyme based on a Hebrew verse of Proverbs 1:8: *ēnrē makane nī kelŭ (ṣəma bənni)*, which was recited by mothers along with the Hebrew source.

4. Features of Jewish Malayalam as a Castelect

So far, I have dealt with the position of Jewish Malayalam on the spectrum of Jewish languages. Since Jews were immersed in orthodox Jewish traditional sources for about a thousand years in the lavish literary and linguistic Malayalam area, it is not surprising that they developed a distinct Jewish language.⁴⁷ In addition to that, one should also refer to the position of Jewish Malayalam on the spectrum of "caste-lects" in Kerala itself. In what follows, I shall note a few peculiarities of Jewish Malayalam.

When compared to standard Malayalam and some of its literary varieties, written Jewish Malayalam is peculiar in its phonetics and morphology.⁴⁸ I list below some particularly striking linguistic peculiarities. All of them appear in the women's notebooks and in many samples of contemporary Jewish Malayalam speech. Some of them appear also in Malayalam translations from Hebrew.

4.1 Phonetics

- The phoneme *l* is subject to change depending on its phonetic environment:

46. For a more detailed discussion with references see Gamliel, 2005; 2008a.

47. For the classical literary traditions of Kerala see Freeman, 2003; and for the folk literary traditions, among which the Jewish Malayalam corpus is counted, see Gamliel, 2008b.

48. The language varieties of Malayalam are manifold and diverse, and mostly undocumented. It might very well be that the peculiarities noted above may be linked to some of them. It is beyond the data available to me to account for such similarities, and an exhaustive study is yet to be conducted. Zacharia has listed some such peculiarities and their relation to Malayalam folk literature (Zacharia, 2005: 129-134).

$\underline{l} > t$, e.g. *koli* > *kōti*, "cock";

$\underline{ltt} > \underline{stt/satt}$, e.g. *vāltti* > *vāstti/vāsatti*, "blessed, gave a blessing".

- Consonant clusters:

$pr > p\check{r}$, e.g. *priyam* > *pēriyam*, "love, affection";

pramāṇam > *pēramāṇam*, "commandment".

$kṣ > cc$, e.g. *pakṣe* > *pacce*, "but, on the other hand";

But, at least in one case, $kṣ > \underline{rr}$, *sākṣikk-* > *sūrrikk-*, "to examine".

- The Semitic guttural $\neg > \underline{r}$, e.g. *sārā*, "Sarah"; *kebbūra*, "tombstone" ("grave").

- Consecutive Vowels:

Forsström (2006: 9-10) describes a glide that occasionally replaces the Hebrew gutturals. This glide is expressed also in orthography, not only in Hebrew words (e.g. *isrāēlikka*),⁴⁹ but also between a final vowel of a Malayalam word and the initial vowel of an agglutinated form, e.g.: *ōrikkalē ōllu* for *ōrikkaleyullu*, "once and for all" (IV16:a¹); *pōṇēavara*, for *pōṇavara* (< *pokunnavar*) (III52:5a²). This is awkward in Malayalam, for it is impossible to write, or pronounce, two consecutive vowels between a base and a morpheme, as Zacharia notes in his description of Jewish Malayalam.⁵⁰

4.2 Morphology

- The present tense marker *-unnu* > *-aṇṇū*, e.g. *irikkunnu* > *irikkaṇṇū*, "sits, stays";
- The final past tense marker *-u* > *-ū* or *-i*, e.g. *paṭiccu* > *paṭiccū* or *paṭicci*, "studied"; *vaccu* > *vaccū* or *vacci*;⁵¹
- Adjectival *a* > *ē*: *nalla* > *nallē*, "good"; also in present participles: *varunna* > *varunnē*, "which arrives";

49. Also in Arabi-Malayalam words with gutturals are often written with successive vowels, e.g. *šariattū*, Tharamel, 2006: 101.

50. Zacharia, 2003.

51. This seems to be a dialectical variation in Jewish Malayalam, for it is found only in notebooks from Cochin. Among contemporary speakers of Jewish Malayalam, the pronunciation of the past tense marker alternates between /ū/, /ə/ and /i/.

- The dative $-u > -ikkū$, e.g. *avanikkū*, 3rd person singular masculine + dative;
- The accusative $-ē > -a$, e.g. *avara*, third person plural pronoun + accusative⁵²
- The ablative morpheme *-ilninnū* is occasionally substituted by *-iØ* *irunna* or *-ilirunna*, e.g. *avari irunna*, "from them" (PA: 4); *vīttil irunna*, "from home" (III83c²). This variation is found only in written forms.⁵³
- The simultaneity marker *kōṇṭū* (occasionally pronounced *oṇṭū*) is profusely used as the absolutive marker *-ittū*, e.g. *poyikkōṇṭū mataṇṇi varāṁ = poyittū varāṁ/ poyivarattē*, "see you, goodbye" (literally: "I shall go and come back"). This variation is found in contemporary spoken Jewish Malayalam.

4.3 Semantic Shifts

Semantic shifts occasionally occur in written and spoken Jewish Malayalam. They might alter the meanings of either Hebrew or Malayalam words. Such semantic shifts might be slight, as in *kēbbūra*, "tombstone" < *qābburah*, "burial". But they might be radical at times, for example, the antonyms *guṇaṁ*, "good quality" and *doṣaṁ*, "fault, defect", loose their antonymic relation, and each attains a different meaning, "luck" and "character, disposition" respectively:

guṇaṁ good/bad luck: *avanrē guṇaṁ atū*, "that's his good/bad luck".

doṣaṁ good/bad character: *avanrē doṣaṁ kōllēyilla/kōllā*,
"he has bad/good character".

The above description is by no means exhaustive. As the study of Jewish Malayalam is in its initial stages of documenting and analyzing, it is likely that many more observations will be incorporated in the future.

52. The variations in the dative and accusative endings are suggestive of an old morphological stratum of Malayalam that still exists in Jewish Malayalam. See Ramaswami Ayyar, 1939: 25, 27-8.

53. This morpheme is similar to the ablative in Tamil, *-ilirunru* (David Shulman, personal communication).

5. A Closer Look at Jewish Malayalam

Apart from linguistic phenomena, another important issue is the content of speech. It is not only through linguistic peculiarities that a language, or a dialect, is defined as peculiar to a certain community. There are many oral literary forms, from the shortest (proverbs, jokes, tokens of speech) to the more complex ones (stories and poetry) that are peculiar to Jewish Malayalam. Such literary oral forms convey the community consciousness as Jewish and Malayali.⁵⁴ In what follows, I examine samples of oral literary forms divided into categories - male-oriented and female-oriented translations, proverbs, folk etymologies, tokens of speech and jokes.

5.1 Male-Oriented and Female-Oriented Translations

A general outline of this twofold division of translations was given above. Here I would like to take a closer look at two translations, their language and their performative function. The first is a paraphrase on a Biblical verse, which mothers would sing to their children at bedtime. They recite the Hebrew words along with their meaning in Malayalam:

śama' b̄ni, ɛnr̄ makane nī kel̄l/
musar 'ābikā, n̄nr̄ vāvāt̄ s̄tta (śikṣa)/
v̄al ttittos̄ ttorat̄ 'immēkā, n̄nr̄ ummāna (ummāt̄) torāna kaiv̄talle/
śādāy cācikko mone (mole)//

"Hear, oh son!/"

Your father's morals (teachings)/

Your mother's Torah/ Do not forsake/⁵⁵

Go ahead and sleep with God, son (daughter)!

This verse, recited in both Hebrew and Malayalam functions as a nursery rhyme. The calque translation is fluid; when the verse is recited

54. Zacharia often refers to this point as "hyphenated society", and stresses both in his writing and in his speeches and lectures the importance of referring to the "hyphenated culture" of Kerala Jews. See Zacharia, 2003: 32; 2005: 7.

55. Based on Proverbs, 1: 8.

to a girl child, the mother would replace *makan*, "son" with *makal*, "daughter". There are also other possible adjustments, *sitta* (< *citta* < *dr̥ḍha*), "morals", a Sanskrit lexeme which conforms to Dravidian phonology (hence of older Malayalam), would sometimes be replaced by the Sanskrit lexeme *śikṣa*, "teachings", which conforms to Modern Malayalam. Similarly, the old form *ummāna*,⁵⁶ "of mother", is replaced by the New Malayalam genitive *ummātē*.

It is important to note that the Old Malayalam forms are not necessarily frozen fossils of obscure meaning. They might have been used also in daily speech. Note also the hermeneutic choice of the Hebrew lexeme *torā* in the translation. In the Hebrew original, the meaning might simply be "teachings", while in the translation the meaning is necessarily the sacred Jewish scriptures. In this way, the mother is portrayed as the transmitter of Jewish knowledge. Lastly, the translation is concluded with the performative statement, *cāccikko*, "go ahead and sleep", and endowed with verbal protective measures by inserting the divine name *śādāy*.

Let us examine a sample of male-oriented translation from PA, p. 4:

śāttāyutē makan śimaḍn parayunnavannu

[H: śimā¹on bēn śāttah¹omer]

ā sāksikaḷa sūrrikkantatinna pērippikkunnavan āka

[H: hāwey marābbēh laḥḍqor¹et hā¹edim]

ninrē vajananāḷil ḍrama ḍtayavan āka

[H: wāhāwey zāhir bidābāreṅkā]

ēntaru avarutē natavi irunna

[H: śēmmē¹mittokām]

nōṇakka avara paṭikkum

[H: yilāmedu lāśaqqēr]⁵⁷

56. Possibly a dialectical form for the old genitive ending -in (see Ramaswami Ayyar, 1939: 30).

57. Simon son of Setah says: "exaggerate investigating witnesses, and mind your speech, lest there will be among them some who might learn how to lie."

For the sake of conveying the awkwardness of this Malayalam translation, it is literally translated below into English:

"The son of Shatta, Shimaon, is one who says...

For investigating the witnesses, be one who increases...

Lest from their midst...

Lying they will learn.

This translation strictly adheres to the Hebrew original, except for the directionality, which is in accordance with the Malayalam typical left-branching direction. Since there is no definite article in Malayalam, the demonstrative *ā* is used to convey the Hebrew definite article; *ā sākṣikāla* does not mean "those witnesses" but rather "the witnesses". The Hebrew periphrastic imperative is literally translated into an awkward structure of the Malayalam familiar imperative *āka*, "be", preceded by the nominalized present participle *pērippikkunnavan*, "one who increases". Another artificial conforming to Hebrew has to do with the case relations between words and verbs. The Hebrew preposition *bā-* may be used for locative or instrumental or for prepositions like "about". In this paragraph it is used in the sense of "about, of": *wāhāwey zāhir bidābārēykā* (Mind your speech!), which would be rendered in Malayalam by a compound postposition such as acc. + *kuriccū/parri*. Nevertheless, the Malayalam translation adheres to the simple case form *-il* as an analogy to the Hebrew preposition *bā-*, notwithstanding the limited use of the Malayalam locative to refer to either location or partitive locative.

The dialectical peculiarities of Jewish Malayalam are even more striking in this translation than in the former sample: the ablative is represented by *-i-irunna* instead of *-ilninnu* and the consonant cluster /kṣ/ is replaced by /rr/ in the verb *sūrrikk-* (<*sūkṣikk-*). Note that the same cluster is retained in the word *sākṣi*, "witness".⁵⁸ In addition to that, there is a peculiar form, *entarū*, to account for the Hebrew particle *šēmmē*¹, "lest". It seems that this form is derived from the Sanskrit *yantram* > *entram*, which the Malayalam dictionary defines as a

58. In contemporary spoken Jewish Malayalam, /kṣ/ is normally pronounced as /cc/. Informants would say *sācci* instead of *sākṣi* "witness".

protective formula (*rakṣākavacaṁ*).⁵⁹ This word might have been subjected to a semantic shift in order to convey the concept of *śēmmē*¹. Another peculiar lexeme is the one used for translating *zāhir*, "careful". Two lexemes are compounded, *ḍrama* and *ḍṭayavan*, literally "be an owner of *ḍrama*". The derivation of *ḍrama* is uncertain, and I can only suggest possible derivations. It might be derived from *ormma*, "thought; remembrance". However, it might also be a nominal derivation from the verb *ura-*, "to be firm", which was in turn subjected to a semantic shift.⁶⁰ Such words are part of the rich and distinctively peculiar lexicon of Jewish Malayalam, which still needs to be documented and analyzed.

5.2 Proverbs

Most of the proverbs that Kerala Jews use are easily found among contemporary Malayalam speakers. Nevertheless, the way speakers of Jewish Malayalam construct such proverbs is depictive of this dialect variation. Here are some examples:

tāṭi-y-ḍḷla appana peṭi-y-uṇṭiḷ.

"One fears a father who has a beard."

This proverb comments on situations of inability to exercise authoritative power. Grammatically, it depicts the peculiar accusative marker *-a* in the word *appana* (< *appanē*). Note also the phonetic alternation *ḍḷla* (< *ulla*), which is common in both spoken and written Jewish Malayalam.⁶¹ Structurally, it is slightly different from the proverb as printed in Modern Malayalam:⁶²

tāṭi-y-uḷḷa appane peṭi-y-uḷḷu

"One fears only a bearded father."

59. See Malayalam-Malayalam dictionary Śabdatārāvali under *yantram*, p. 1468. See also Gundert's Malayalam-English dictionary under *ēntiraṁ*, *ēntaraṁ*, p. 158.

60. In the corpus of Jewish Malayalam songs, there is a tendency to form abstract nouns with the ending *-ma*, even when the dictionaries do not gloss such derivations for the verbs in question. This point needs more data analysis in future studies.

61. The alternation *u* > *ḍ* is common in Old Malayalam and in regional variations of Malayalam, see Ayyar, 2004: 39.

62. Aravind, 2006: 58.

In the printed variant of the proverb, the structure is emphatic, and restricted by the construct *e... ullu*.

irunnontt̃ kāl n̄tt̃ā s̄atikkullū.

"To stretch legs is only possible after sitting."

The meaning of this proverb is that certain conditions must be fulfilled before attempting a particular action. In this proverb, the substitution of the absolutive marker *-itt̃* by the simultaneity marker *-kōnt̃* (>*ont̃*) is apparent. The printed version of this proverb makes this point clear:

*irunnittu venam̃ kāl n̄tt̃ān.*⁶³

"It is necessary to sit first for stretching the legs".

Note that also in this case there is a structural variation of the proverb. The restrictive emphatic construction is used in the Jewish Malayalam variation, while in the printed variant it is the desiderative construction with *venam̃*.

Some proverbs may be unique to speakers of Jewish Malayalam, and they reveal patterns of social orders and cultural concepts:

kaṭṭil ḍlikeyilla, mutti cāveyilla.

"The cot won't be abandoned, grandma won't die."⁶⁴

This proverb is said to denote frustration at being unable to get rid of somebody who is burdensome. In earlier times, people in Kerala used to sleep on mats, and the only cot in the house would be occupied by the eldest female member in the family, the grandmother or grand-grandmother. This practice, and consequently the proverb, reveals the matrilineal social pattern and its stronghold in the Jewish communal life.

kālanr̃ p̃r̃ poyālum̃ yātanr̃ p̃r̃ povall̃.

"Better follow a demon than follow a Jew."

63. Ibid., 23.

64. Some informants changed the order of sentences in this proverb: "grandma won't die, the cot won't be abandoned".

This proverb is said when a Jew cheats another Jew. Note the semantic shift of *kālan*, "Death" → "Demon", and the colloquial form *pērē*, "behind" (<*pirakē*). During occasional conversations with Kerala Jews, some would narrate how certain merchants would use different techniques for cheating their customers. This proverb depicts the socio-economical involvement of Jews in Kerala as reflected in their self-image.

pārukuññū pulikkuññū, saveli varumba valikkuññū.

"A lad from Parur is a tiger-boy, but when reaching an assembly he is a puff of air."

This proverb implies that the Jews of Parur are considered arrogant among other Kerala Jews, and exemplifies the communal tensions and social divisions among them. It is noteworthy that the sense of pride in one's community is retained in Israel, and it is applied not only to one's origin community in Kerala, but also to one's community in Israeli settlements. Note the peculiar form for "assembly", *saveli* (<*sabhayil*).

5.3 Folk Etymology

Similar to proverbs, folk etymologies betray cultural concepts and social patterns. So far, I have been able to collect only two samples of folk etymologies in Jewish Malayalam. Both of them reveal the self-image of Kerala Jews and the way they perceive their social place in the framework of Kerala society. The first of these is the etymology of a place name, Chennamangalam, where a Jewish settlement existed at least since the thirteenth century. Naturally, this etymology has nothing to do with the actual derivation of the word. According to Oren, who was born in Chennamangalam, the place name is derived from a combination of four words: *cañnu*, "conch", *vañnu*, "muezzin", *kōmbū*, "horn" and *mañi*, "bell". Each of these words is a metonym for Hindus, Muslims, Jews and Christians respectively, denoting the sounds that arise from the shrines of each community. Conches are blown during services in Hindu temples; the muezzin calls out for the Muslim believers five times a day; a horn (*šopār*) is blown during the Jewish high holidays; and in Christian churches, the bell is struck during the Mass. The belief that the name Chennamangalam is a conglomerate of these four words depicts the appreciation of Kerala Jews towards

religious pluralism in Kerala, and their sense of religious harmony in their homeland.⁶⁵

The second folk etymology is concerned with the nickname for Muslims, *yonānkākkā*, literally "Elder brother Muslim" (*yonān* = Ionian, Greek). Jews believe that the title *kākkā*, "elder brother" is used for mytho-historical reasons, for the mythical ancestor of Muslims is Ishmael, the elder brother of the mythical ancestor of the Jews, Isaac. However, they offer a second possibility, denotative of communal tensions and rivalries in Kerala society: *kākkā* also means a crow, and it is said that Muslims, like crows, gang around with much cries and woe - *kā! kā!* - whenever one of them is being attacked. This etymology is attributed to Hindus.

5.4 Tokens of Speech

Tokens of speech are often markers of communal identity. In addition, they abound in linguistic peculiarities. For example, to insinuate that Jews from Cochin are stingy, the following quote is spelt out:

tinnontallē vane?

"You have eaten already, haven't you?"

This token of speech is attributed to the reception of unexpected guests by Jews from Cochin, trusting that their guests will be too shy to admit that they are hungry, and thus they would avoid serving him food.⁶⁶ Note the use of *-kōntū* to denote "after".

avanikkāḥ vayokūlum vayotirū illa.

"He has no sense of 'they shall eat and leave some food'."

This token of speech denotes someone who eats like a pig. It betrays two peculiarities of Jewish Malayalam: the use of the archaic form *avanikkāḥ*, and the insertion of a Hebrew reference, *wayyokālu wayyotiru*, borrowed from the prayer over food.

65. Interestingly, Kerala Jews refer to Kerala by the word *nāṭū*, "the country; the homeland".

66. This token of speech was told by a member of Kaṭavumbhāgam-Koci synagogue in Cochin, who happens to be very generous with food.

To denote an illiterate person, the following is said:

ālēphinrē vakkū ariyān pāṭilla.

"He doesn't know the edge of the letter 'Aleph'."

This token of speech reveals the attachment of Kerala Jews to Hebrew literacy.

For scolding someone, a Hebrew word is used in an offensive way:

ētā mēsummādū!

"You are a villain!"

Note the semantic shift of *māsummād*, "apostate", to "villain". Following are a few more examples for the way Hebrew components are used in daily speech:

avanikkū šēttūtū piṭicci.

"He is stupid."

šēttūtū < šattut, "folly"

sūra ellām poyi!

"You became ugly!"

Literally: All beauty is gone! Here too we may observe a semantic shift of the Hebrew word *surāh*, "form", to denote "beauty".

To denote that one is not to be blamed in some unfortunate and unintentional turn of affairs, the following token of speech is used:

ēnrē kutikkanē vēllattil nān cēññilla!

"I didn't do in the water which I drink!" i.e. I did not mean to do that!

Note the peculiar negated past form of "didn't do", *cēññilla < cēytilla*, which seems to be a morphological analogy for verbs ending in /y/, e.g. *ariññilla*, *kaliññilla*.

Lastly, when asked, "how are you?" one may reply with the following to denote "all is just well":

nēllū ūttiā ari, ari vēyccā corŭ, corŭ tinnā - ūṇālicci.

"By sifting paddy, I got rice grains, by cooking the rice grains, I got rice and by eating the boiled rice I had my meal."

Note the dialectical variations, common in other Malayalam dialects, of omitting initial /k/ and final /l/: *ūt̥tiā* < *kuttiyāl*; *vēyccā* < *veccāl*; *tinnā* < *tinnāl*; *ūṇālicci* < *ūṇ kaliccu*. Such a token of speech betrays the strong sense of Kerala Jews as authentic Malayalis, even after fifty years of using corn for staple food rather than rice.

5.5 Jokes

Among the materials collected so far, there are a few jokes and jests. There is one joke which is particularly worthy for attention, as it is told alternately in Hebrew and in Malayalam. The joke begins with a father, who picks up the prayer book and starts reciting Psalms (93: 4-5), a customary recital for Saturday night:

<i>miqqolot mayim rabbim</i>	The sound of mighty water....
<i>ēti mole ā kaṇṇāti ḏnnū ētuttēti</i>	Hey, girl! Get me my specs!
<i>addirim miṣabbārey yām</i>	So huge are the ocean waves...
<i>vāvā ēviṭ āṇū vēccirikkaṇṇū vāvā</i>	Dad, where did you put them, dad?
<i>ʾaddir bamārom ʾaddonāy</i>	The God above is mightier than them.
<i>ā almārayi vēccattḏṇtū ēti</i>	I had put them in that closet.
<i>ʾedotēykā</i>	Your flocks...
<i>vāvā aviṭ ḏnnum kāṇannilla</i>	Dad! I don't see anything there!
<i>nēʿemānu məʾod</i>	Are firmly faithful...
<i>nallonṇam nokkēti mole</i>	Search properly, girl!
<i>labbeytākā</i>	to your abode...
<i>ḏnnum kūti nokkēti</i>	Take one more look, girl!
<i>naʾāwāh qodēs</i>	which is the dwelling of the Holy...
<i>iviṭḥ ḏnnum kāṇannilla</i>	I see nothing here!
<i>ʾadonnāy</i>	God...
<i>innā vāvā kaṇṇāti</i>	There, dad, your specs.

lō¹orēk yāmim

For ever and ever.

ninrē tala tē₂raccum pottē

May your head blow into pieces!

ñān cēllim poyi

I'm done with the prayer!

When this joke is told to a crowd of Jewish Malayalam speakers, they giggle at each line, and burst in laughter at the last line. I believe that the tension between the serious Hebrew recital and the colloquial speech incites the giggles. In the punch line, the curse aimed at the daughter invokes much laughter, but moreover, the father's behaviour is absurd - why does he bother his daughter, and disturbs his own prayer, to fetch his spectacles, if he actually knows the verses by heart?

6. Conclusion

The Jewish Malayalam joke dealt with above may only be told to "insiders", to speakers of Jewish Malayalam. For this reason, it is an excellent sample of the unique consciousness of Kerala Jews, composed of sacred Hebrew texts and colloquial, regional Malayalam. There is yet another interesting point in this joke. While it is generally common in India to preserve and transmit sacred texts by heart, Jews are attached to written scriptures. Kerala Jews memorized and orally transmitted the bulk of their Jewish Malayalam knowledge over the centuries. Hardly any of it was preserved in writing.⁶⁷ Some attempts have been made to examine which books were circulating among the community.⁶⁸ Unfortunately, no one so far ever considered the possibility that the bulk of cultural knowledge is in the minds and hearts of the people. Despite of Jewish Malayalam being on the verge of extinction, and the fifty-odd years past migration, the remnants of this thousand years old Jewish culture may still be documented and studied.⁶⁹

67. An exception for this is the women's notebooks. However, it is important to note that more than half of the notebooks were preserved among the Paradeshi community, and most of the other half were preserved among the people of Kaṭavumbhāgam-Koci. Therefore, also in the case of the women's songs, transmission and preservation were, I believe, a matter of oral knowledge. This is a separate issue to be dealt with elsewhere.

68. See Bar-Ilan, 1992.

69. A project of documenting the last speakers of Jewish Malayalam in Israel started under the auspices of the Ben-Zvi Institute in Jerusalem on the summer of 2008.

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70. In addition to the manuscripts listed above, there are about 35 notebooks with Jewish Malayalam songs. Copies are available at the Ben-Zvi Institute in Jerusalem.

71. The text was kindly lent for Xerox copying by Sami Koder from Binyamina.

CALDWELL AND A.R. RAJA RAJA VARMA ON MALAYALAM GRAMMAR

K. Raghavan Pillai, 1996, Demy 1/8, pp. 168, Rs. 250/- (US\$ 25/-)

A comparative study of the views of two prominent grammarians, this work attempts to compare the views of Caldwell and Rajaraja Varma (A.R.) on Malayalam, its relation with Dravidian in general and Tamil in particular. The work aims to analyze critically the introduction (*Pīṭika*) by A.R. to *Kēraḷapāṇinīyam*, vis-a-vis an evaluation of Caldwell's views on Malayalam grammar and its development. The discerning critic will find this work informative and stimulating.

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Notes and Discussions

**NEURAL REPRESENTATION OF NATIVE AND
SECOND LANGUAGE IN BILINGUAL**

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ABSTRACT

In this review paper, two views related to bilingual language processing are presented. The first view is related to storage hypothesis that suggest different languages are stored in brain neurologically in separate areas. The second view is related to processing hypothesis that suggests language representation in the brain share a common area. To address a range of findings concerning the functional cerebral lateralization of the native (L1) and second languages (L2) of bilinguals, with the advent of non-invasive neuroimaging modalities and their application over the past few years, it has become possible to learn about the neural correlates of language skills in bilingual, or who makes transitions from a minority language to bilinguality. Presently there is considerable controversy concerning the representation of language in individuals who are bilingual.

Key words: fMRI, PET, Late and Early Bilingual

Introduction

Bilingualism means knowing two languages. Technically, it is used as 'multilingual', but psycholinguistics often uses the term bilingual to include multilinguals as well (Taylor and Taylor, 1990). A native language of a bilingual is referred to as the 'first language' while his non-native language is called as the 'second language'.

Wallace and Lambert (1991) introduced two types of bilinguals. They are additive and subtractive bilinguals. In additive bilingualism, an individual acquires proficiency in a second language without any loss of his first language. In subtractive bilingualism, the new language replaces the first language. So it is generally observed that, subtractive bilingualism plays the dominant role over the first language. It has been proved that bilingualism is a skill which provides more confidence to interact and communicate with others.

Studying variations in the nature and onset of language exposure offers a unique window into the influence of language experience on brain functioning. The nature of the brain-language relationship has interested cognitive and language researchers for well over a century. Lesion deficit studies have been the primary basis for the view that the left cerebral hemisphere (LH) is specialized for language, particularly grammar and phonology. It has subsequently been theorized that the right hemisphere (RH) is important for the processing of semantic and pragmatic aspects of language. Research with humans who experienced early sensory deprivation in one or another sensory modality has pointed to subsequent alterations in brain functional organization (Neville et al 1997; Burton, et al 2002). An argument for brain based differences in the organization many language researchers and theorists have postulated lateralization of acquisition for second vs. first languages. It has been hypothesized that, on the assumption that the human brain continues to develop until puberty, a language that is acquired after brain maturation is complete may show different neural mediation than that characterizing languages acquired while the brain is still developing (Genesee, 1982). Quite apart from brain maturational considerations, one may also expect differences between bilinguals on the basis of possible differences in cognitive architecture or processing strategy associated with bilinguality. It has been suggested, for example, that the process of acquiring two languages may promote the development of cognitive strategies for resolving any interlingual interference that may arise from contrasting phonologies or grammatical rules (Genesee et al, 1978).

Researchers have come up with two distinct patterns of cortical localization common versus distinct representation of the two languages within the dominant hemisphere. In an attempt to explain the complex pattern of cerebral organization they have proposed several factors

such as the age of second language acquisition (SLA), the proficiency level of subjects, the types of cognitive tasks and the methods used.

Techniques with high spatial resolution, such as Positron Emission Topography (PET) and Functional magnetic resonance imaging (fMRI), can help pinpoint brain areas important for language processing and techniques with high temporal resolution, such as event related potential and eye tracking, can help reveal how language processing unfolds over time; they can be used to track the availability of different sorts of linguistic information and the temporal course of their interactions. Additionally, studies of brain-damaged patients, in conjunction with the use of psycho-physiological measures, can provide important insights about which brain areas are necessary and/or sufficient for certain types of linguistic processes and about the relationship between language processing and other cognitive abilities. Despite the fact that language processing recruits large portions of the brain, some parts of the brain are considered by most to be particularly concerned with the processing of language. An area of the frontal cortex (Brodmann's areas 44 and 45) known as Broca's area is one example. Damage to Broca's area (which usually also includes underlying sub-cortical tissue and white matter) causes an aphasia characterized by halting, "telegraphic" speech (lacking in function words) but with reasonably good comprehension. In contrast, damage to Wernicke's area (Brodmann area 22) in the parietal cortex produces a "fluent" aphasia (speech has normal rate and rhythm) with impaired comprehension. While Wernicke's aphasics produce speech easily and use function words appropriately, they produce large numbers of paraphasias (incorrect word substitutions) that render their speech nearly incomprehensible. There remain many debates about what Broca's and Wernicke's areas specifically contribute to language processing (e.g., motor vs. sensory, syntax vs. semantics).

Distinct Cortical Representation

The early research in aphasia and degree of recovery after a stroke led to the conclusion that native and second languages are represented differentially within the dominant hemisphere (Junque et al, 1995).

Ojemann and Whitaker (1978) tested early and late bilingual patients of L1 English, L2 Spanish and L1 Dutch, L2 English,

respectively in a naming task. They found that each language has a distinct cortical representation regardless of the accuracy of the naming in that language. In a more recent study of word recognition and word finding, Junque et al (1995) demonstrated differential impairment in fifty bilingual aphasic patients who could speak Catalan and Spanish fluently prior to the aphasia. Based on this finding they concluded that the pattern of cerebral organization might be different in each bilingual.

In a PET study of story listening in L1 Italian, L2 English (acquired after the age of seven) and Japanese as a third unknown language, Perani et al (1996) found that the cortical areas activated by the native language were not activated by the second language. Both the second and the unknown language led to distinct left-hemispheric activations in areas specialized for phonological processing. Based on these findings Perani et al concluded that cerebral organization of the native and second languages is organized by the age of second language acquisition and in late bilinguals, there is difference in native and second language.

Kim et al (1997) used fMRI to compare language production in adults who achieved proficiency in two languages simultaneously early in their development (early bilinguals) or sequentially as young adults (late bilinguals). Results showed that, in the late bilinguals, there were separate but proximal areas of activation for the two languages in the anterior part of the brain often associated with phonological coding (e.g., Broca's area), but no separation of the two languages in posterior temporal and parietal language areas (e.g., Wernicke's area). For early bilinguals, there was no significant anatomical separation of the two languages in any of the language areas evaluated. They inferred that activation sites for the two languages tend to be spatially distinct in Broca's area in late exposure to the second language, but Wernicke's area shows an overlapping pattern of activation for both native and second languages regardless of age of acquisition.

Perani et al (1996) used PET to measure brain activation when bilingual Italians with some English proficiency listened to stories in either Italian or English. In contrast to Italian, listening to English stories produced a distinct and more reduced activation pattern, especially in the temporal lobes, relative to Italian. In an fMRI study, Dehaene et al (1997) obtained similar results in French bilinguals who

developed varying degrees of proficiency with English late in life. Perani et al. (1998) used PET to evaluate story listening in both early and late bilinguals, the early bilingual group learned Spanish and Italian simultaneously, while the late bilinguals mastered English well after they learned Italian. The story listening paradigm showed that activation patterns varied with proficiency. Thus, Perani et al (1998) argued that proficiency, as opposed to age of acquisition, was the critical determinant of cortical representation of the two languages.

The results led the researchers to conclude that first language acquisition relies on a left-hemispheric network while late second language acquisition is not necessarily associated with a reproducible biological substrate. Dehaene et al suggested that the inter-subject variability in the cortical representation of L2 may be ascribed to the exact age of second language acquisition (SLA), the proficiency of subjects in L2, the typological differences between two languages, the context of SLA and the methods of teaching L2.

In a most recent fMRI study Pillai et al (2003) investigated the differences in regional activation pattern and lateralization between semantic and phonological tasks in L1 Spanish L2 English (acquired after the age of 10) bilingual subjects. They found differences in the activation pattern between semantic and phonological tasks in English, but not in Spanish. Thus they concluded that neural networks for phonological and semantic language processing in the second language may represent a differential pattern unlike that of the native language. Their results are attributed the greater right hemispheric activation in the English phonological task to the subjects with moderate L2 proficiency or late age of L2 acquisition.

Common Cortical Representation

While a vast body of research has focused on a distinct cortical representation for native and second languages, strong evidence has also reported a common neural system for two languages in the literature.

Perani et al (1998), in a recent PET study of story listening, investigated the effect of early and late acquisition of L2 in two highly proficient bilingual groups: Italian-English bilinguals who acquired L2 after the age of ten and Spanish-Catalan bilinguals who acquired L2

before the age of four (high proficiency late acquisition HPLA & high proficiency early acquisition HPEA, respectively). In a previous PET study by Perani et al (1996) and fMRI study by Dehaene et al (1997) the subjects were low proficiency late acquisition subjects. In these studies it is not clear whether the age of acquisition or the proficiency level has different patterns of cortical activation between native and second languages. In this recent study Perani et al compared both high proficiency late acquisition and high proficiency early acquisition subjects to determine the role of proficiency per se. They found that in both groups of HPLA and HPEA similar patterns of cortical activation were observed regardless of the age of L2 acquisition. Thus they concluded that attained proficiency seems to be a critical factor in shaping the functional brain organization of L2 rather than age of acquisition.

Chee et al (1999a) used fMRI to evaluate language organization in 24 adults who were proficient in Mandarin and English. Fifteen of these participants learned Mandarin and English simultaneously, while nine learned English after age 12. The participants completed tasks that required the silent generation of words to cues. Results showed no anatomical differences in language organization for the two languages regardless of when exposure to a second language occurred. In another fMRI study from the same laboratory, Chee et al (1999b) used a sentence comprehension task to assess language representation of Mandarin and English in early proficient bilinguals. No differences in the cortical representation of the two languages were apparent.

Illes et al (1999) evaluated language organization in a group of adults who learned both Spanish and English sequentially (i.e., late bilinguals). The participants were shown lists of words in either language and were asked to make semantic decisions by responding to only certain types of words (e.g., concrete, but not abstract, nouns). There were no significant differences in degree of activation or anatomical representation of the two languages. In a PET study by Klein et al (1999) also found no differences in Mandarin-English late bilinguals who completed silent word repetition and verb generation tasks. These findings suggest that different languages are mediated by common neural systems.

Klein et al (1999) investigated the cerebral organization of L1 Mandarin and L2 English in high proficiency late acquisition bilingual

subjects in a PET study of word generation task. In their analysis of both individual and group data Klein et al found that common cortical regions were activated during a lexical search task in both Mandarin and English. Thus they concluded that fluent late bilinguals of typologically distinct languages utilize common substrates at the lexical level of processing.

In reference to the PET studies by Klein et al (1994, 1995, 1999) and Perani et al (1998) which also demonstrated a shared cortical system for semantic knowledge in two languages, they further argued that through PET studies group averages obscure individual variations with respect to the representation of semantic activations. Therefore, fMRI would be a better technique to visualize individual activations with its superior spatial resolution as proposed also by Chee et al (1999).

Discussion

Literature of neuroimaging studies in healthy bilingual subjects focused on two main questions in their early studies of bilingualism and the brain: the cortical localization of native and second languages in the brain and the effect of age of second language acquisition on the cortical representation of the two languages. However, there are different methodologies (PET vs. fMRI), languages (typologically, orthographically and phonologically close vs. distant pairs), subjects (high vs. low proficiency and early vs. late bilingual groups) and language tasks (comprehension vs. production) at different linguistic levels (syntactic, lexical, phonological and semantic). Following this the researchers proposed several other factors in their attempt to explain the complex pattern of cortical organization beside the age of second language acquisition such as L2 proficiency, the structural distance between native and second languages, the types of cognitive tasks and the methods employed.

The studies reviewed above within the framework of the representation of native and second languages in bilingual indicate that languages are localized partly in common areas as well as in distinct areas of the brain. First and second language learning will depend to a greater extent on discernment of the principles of linguistic structure for acceptable utterances in each language, whereas later second

language learning will be influenced by existing knowledge of linguistic structures in the first language (Bialystok & Hakuta, 2001).

Early studies drawn from the literature of aphasic cases in bilingual patients constitute a strong argument for the divergent representation of different languages in the brain (Ojemann & Whitaker, 1978). However, recent studies argued against attributing the cases of selective impairment in one language but not the other to differential representation of two languages as such an assumption would be too simplistic in the sense that it is unlikely that the two affected languages exchange their location in a case of nonparallel recovery.

Bilingualism is associated with increasing cognitive flexibility and divergent thinking and with an accelerated metalinguistic awareness (Bialystok, 2001). Less studied in this regard are possible cognitive differences associated with different forms of bilingual experience, in particular, with early, simultaneous exposure to two languages vs. later, successive exposure. The available research supports the following generalization: When there is a choice, early bilinguals are more inclined to process words at a semantic level than are late bilinguals and show more influence of semantic/conceptual variables in word association and free recall tasks. They are also faster than late bilinguals in speeded semantic comparisons of words and show a more field-independent cognitive style (Vaid & Lambert, 1979) than late bilinguals or monolinguals. Late bilinguals, in turn, appear to make preferential use of surface aspects of words, such as their acoustic features. Genesee et al (1978) found that late bilinguals were faster than early bilinguals on an auditorily presented language recognition task, and interpreted this difference to reflect a surface-based strategy of identifying the language of the presented words.

Vaid and Lambert (1979) tested hemispheric involvement in early and late bilinguals and monolingual controls and they reported that women and early bilingual men tended to employ a semantic processing strategy for verbal stimuli, even when the task only required phonetic processing. Later on Vaid (1984) suggested that early bilinguals' apparent preference for processing words semantically might have been fostered by an earlier realization of the arbitrariness of sound/meaning relationships and thus a focusing on content over form in contrast to late bilinguals' greater use of surface level word features.

It seems that the representation of bilingual language is not restricted with few studies. Further research is needed for a full understanding of the nature of organization of native and second languages in bilinguals before drawing a definite conclusion about the functioning of the neural systems underlying different aspects of language processing.

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**BA:LAVYA:KARANAMU OF
PARAVASTU CINNAYA SU:RI**

P.S. Subrahmanyam (Tr.), 2002, HB, pp. iv+xliv+382,
Rs. 1,200/- (US\$ 120/-)

This magnificently-produced volume in 10 chapters with 3 appendices opens our eyes to Telugu grammatical tradition. Though Panini is mentioned, the Katantra pattern which is also the pattern of Tolkappiyam, is followed. For describing the grammatical tradition of Telugu, this work is indispensable. The English translation is pleasing and precise.

BRAIN AND LANGUAGE (Seminar Proceedings)

P.A. Suresh, Annie Monsy & S. Maya (Eds.), 1994, HB, Demy 1/8,
pp. xiv+214, Rs. 275/- (US\$ 75/-)

A compilation of 7 papers on various aspects related to the connection between brain and language. The papers deal in depth with the study on how brain damage can disrupt the use and system of language functioning in children as well as in adults and looks at unique opportunities to find out more on the anatomo-physiological organization of the human brain, and in identifying the physiological components in the mental processing of language.

EARLY INSCRIPTIONAL MALAYALAM

K. Retnamma, 1994, Demy 1/8, pp. 326, Rs. 350/- (US\$ 35/-)

A data-oriented report, this book containing 45 inscriptions belonging to I-IV-century Kollam era, focusses on the origin and gradual development of Malayalam language during subsequent centuries. Historians and linguists will find this analysis helpful in outlining the early period of Malayalam language.

Notes and Discussions

**RIDDLES AND PROVERBS IN
BRAHUI FOLK PROSE AND POETRY**

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Introduction

Brahui is a North Dravidian language spoken in the central Balochistan/Sindh province in Pakistan and some parts of Sistan-o-Balochistan in Iran. Brahui is rich in folk literature; however, due to various influences it has lost its ancient Dravidian folk literary forms. The known history of Brahui folk literature is not much ancient but like other neighbouring languages it comprises of both prose and poetry. Brahui prose consists of folk stories, folk tales, proverbs and riddles. The poetry is generally based on various poetic forms i.e. *lailimor* (love songs), *barnaazanaa*, *laiko*, *hallo* (marriage songs), *loli* (lullaby) and *modah* (elegy) etc.

Brahui Riddle and proverbs

For recreation of their children and other family members Brahui nomad shepherds and farmers mostly created folk stories. These stories are still narrated around a campfire in the night in every nomad camp. It is believed that the folk stories in Brahui have mostly been created by some persons with creative mind after sunset and before going to bed, especially to pass time. Mothers also used to tell these folk stories to their kids before going to bed.

There are three types of folk stories in Brahui literature, viz. (i) those created by Brahuists themselves, (ii) translated from other

languages into Brahui and (iii) those stories which were derived from other languages but have become Brahuized.

The main topics in folk stories include human wishes, kings and their behaviours, prince and princess and their love stories, thieves, poor persons, conquerors, shepherds and peasants. The animals and birds in Brahui literature have always been symbolized in various shades and meanings according to their attitudes described in the particular stories. In prose and poetry, animals are also symbolically used for colour, pace and gait. The animals and birds which have been characterized in Brahui folk stories as symbols are lion for bravery, crow for cleverness, dog for faithfulness, fox for greed, sheep for simplicity, ox for power and camel for tolerance. The language used in Brahui stories is very simple and understandable by both the children and adults.

Brahui folk poetry depicts women with various symbolic names, like *Zeba* (beautiful), *Zebal* (pretty), *Zebjan* (beautiful), *Phuljan* (like flower), *Guljan* (like flower), *Mahlanj* (beautiful than moon light), *Bijli* (electricity/light), *Laadhi* (delicately nurtured or brought up), *Jaanal* (part of body), *Sauzo* (brownish) etc. The beloved in Brahui folk songs can always be seen with respect to her gait, colour, attitude and behaviour.

It is presumed that most of the Brahui folk songs have been created by the shepherds and farmers during their grazing of cattle or fieldwork. Brahui women segment has a major role in the creation of Brahui folk songs. The vital issues described in Brahui folk songs are based on the social problems, for instance, droughts, women and men labour, insufficient food stuff, difficulties of the mountainous and nomadic life, flock-keeping, tribal disputes, travelling problems, wildlife danger, lack of information and communication. It is worth mentioning that due to the rigid Brahui traditional norms, the love stories are lacking in Brahui folk literature.

Riddle and proverbs in folk songs

The popular Brahui folk songs are *laili-mor*, *Keluara*, *Barnaazna*, *Momal modi*, *Liko*, *Haalo* (marriage songs) and *Modah* (elegy). *Lali-mor* is a very common poetic form in the Brahui-speaking areas of Balochistan. Every Brahui nomad and villager definitely knows some

verses from *Laili-mor*. It has two lines in a stanza, in the first line a social or general problem is discussed while in the second line the beauty, gait or sketch of the beloved is delineated.

Cotoli cuk ase asman ti zigar a kak

(*Chotoli* (bird lark) praying for his creator while flying)

Laili kana tusune ustatī fikar a kek

(My beloved is sad due to the hardships of the life)

Bar kana laili-mor nokar na jinda ja

(I am your servant, do come my beloved)

Sangati tamane mosum e sind a na

(We are to accompany as Sindh (Indus valley) season comes)

Barnazaana is the shortest form in Brahui poetry. It has three verses with common rhythm and in the fourth line "*Branaaz naa ji naaz anaa*" is repeated again and again. This poetic form is popular amongst the nomads and farmers and they used to sing it with *sironz* (a musical instrument like a fiddle).

Kwaja kana ni us kuda

Kapes kane dost an jita

Katum kana ne kin fida

Barna zana ji naz a na

(O God' my master,

Don't separate me from my beloved,

I sacrifice my life for you,

Oh; my beloved do come with lovely gait)

The Brahui folk tunes can easily be adjudged among other neighbouring languages like Balochi, Pashto and Sindhi. *Laiko* is a poetic form as well as a common folk tune of the "*Zairok*" another poetic form. It has three lines 5-7-5 just like Haiku of Japanese. In some Brahui folk songs the difficulties and problems of nomadic life faced during travels of caravans are commonly found. Brahui nomads normally travel between Kachhi (the Plains of Balochistan, present Sibi and Naseerabad Division of Balochistan) Sindh (plains of Indus River)

and Khurasan (the mountainous land, presently Quetta and Kalat Divisions) in search of pastures.

Brahui folk literature is full of nomadic characteristics. The epic poems are mostly created by the poets belonging to the scheduled castes called *Lori* (goldsmith). Their major duties in Brahui society are to serve the people on the occasion of wedding ceremonies and death rituals. They also beat drums (*dhol*) on the occasion of marriage ceremonies or other festivals. They create and sing epic poems during the tribal battles. Besides these, they also make and sharpen agriculture tools of the farmers, to repair firearms and sharpen swords and other lethal weapons of the tribesmen.

Brahui folk songs are mostly sung without musical instruments. The common musical instruments among males are *sironz* (local instrument like *sarud* in Hindi) and *dambura* (an instrument like Turkish Guitar) while females use *daira* (a small sized one-sided drum). It is pertinent to mention that every Brahui woman can easily beat *daira* and every man can easily play *sironz* and *dambura*.

Proverbs in Brahui Prose and poetry

A large number of Brahui proverbs are commonly found in Brahui prose but occasionally in poetry. The Brahui folk stories provide proverbs ranging from five to fifty. The common proverbs used in the stories are related to the feelings of human being, natural beauty, animal characteristics etc. Brahui nomads and other elderly persons frequently use proverbs during their daily conversation. The old people while giving advice and directives to the youngsters use proverbs. The Brahui proverbs have been preserved in a very interesting way in Brahui literature and have ancient morphological constructions of the language.

Some important Brahui proverbs are given below.

Duz a na rish a kakase.

(A guilty conscious needs no accuser)

Hussar ta kharwalak uff kek panerte.

(A burnt child dreads the fire)

Tanke khaar kappes molh mafak.

(No smoke with out a fire)

Antas dasos handun rootos.

(As you sow so shall you reap)

pid e xuda xalkune.

(Belly teaches all arts)

Shoke e ajal arfik shaaraa mon kek.

(When death of jackal nears she comes to cities and towns)

khal kubeyene tenaa jagaghaa jwaane.

(A stone on ground is better than rolling one)

Hulli na laghat e ulli sagik.

(Horse can daze the power of horses)

There are very few examples of proverbs in Brahui folk poetry because of the length and matter of proverbs and short poetic form of Brahui poetry. Therefore the long proverbs cannot be adjusted in poetic form. However, proverbs are rarely found in poetry.

Ballaah naa dostee gandag e

(Proximity with rich persons is not good)

Khan khan aan sharmindeh e

(Out of sight out of mind)

Rangathee toot ann zardaloo zor

(Apricot is more colourful than Mulberry)

Gandah naa waag e ghuth aa tor

(The first impression is the last impression)

Jangal naa gudhing jang asi

(Cutting of forest is battle)

Nasal naa jwaano rang asi

(My beloved is a pretty one)

There is another form of Brahui proverbs possessing complete real background stories. These proverbs are not part of the stories but a story is found behind them. The most popular proverbs in Brahui are "Balwaan naa baram (marriage of Balwaan), "Nasrohi naa luma naa

kafan" (The Coffin of Nasrohi's mother), "*Gaaji naa shiwahi*" (The bad luck of Gaaji), *Shaahi kharwaar baawa ust deer kek*" (Four bags of wheat on quarter rupee but father died due to hunger), *khwaari pok aa jaafar khan* (regard less Jafar Khan) etc.

Balwaan naa baraam (The marriage of Balwaan) is an interesting proverb with complete background story commonly narrated by Brahuis. A foolish and simple person namely Balwaan was engaged but his father in law was a covetous and greedy person. He asked Balwaan to bring dowry amount and marry his daughter. Balwaan went to his relatives and collected the required amount. On return the greedy father-in-law asked him to bring more. Balwaan tried his best but did not succeed in bringing such huge amounts which was continuously increased by his father-in-law. Balwaan did not succumb to the demands. Nowadays, when a work or plan prolongs and cannot take effect, the proverb of "*Balwaan naa baraam*" is referred to and said that this task is just like the marriage of Balwaan.

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Notes and Discussions

**BAALSANTU: A CASE OF DIALECTICAL
EVOLUTION OF FOLK DANCE**

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Abstract

Marathis, one of the tribes of Kasaragod has an ancient form of folk dance known as Baalsantu, almost at the verge of extinction. The agrarian background of the tribe gave birth to it and the later changes seem to have affected its ethnic characteristics through cultural co-options and cultural borrowings. The dance form has undergone radical changes through centuries stretching from the tribal dance to ritualised sacred rite and finally to a secular comical pageant. The three phases seem to be a dialectical evolution of this cultural discourse, interrogating and asserting changing identities.

Keywords: Marathi Naiks, folk dance, dialectical evolution, discourse and discursive practices.

Although Marathi is an umbrella term, we use Marathi here with the particular meaning of Marathis of Kasaragod, a tribe in Kasaragod district, in which three sects are found, namely, Kumeri Marathis, Marathi Naiks and Kudubis. The folk theatre tradition of this district has a very rich legacy comprising various forms of Bhuuta worship like Goondolu, Kangulu, Kambala and Pilikoola. There are other folk-performing ritualistic arts in Tulunadu such as Aati-Kalenja, Sonada-Jogi, Karangolu, Maadira Kunitha, Pilipanji, Siddavesha etc. Marathis have added the 'Baal-Santu' dance to these various folk-performing arts. We make a description of the folk dance, followed

by an analysis where an evolution of three distinct phases are visible, as the, original tribal version, Brahminized ritual one and the modern secular one. A comparative study of these three phases enables us to have a glimpse of the evolution of the ritual as a form of discourse, with its 'dialectical relationship', the mutually constituting relationship of discourse and social systems.

Definition

One of the important cultural practices of Marathis was Baalsantu. In the modern days, it is not so common among them, although among cultural practices, it was second only to Gondolu. It is practiced in the months of February and March (Kumbha maasa) in which it starts from one full moon and ends with the next full moon. It seems to be one of their most original rituals.

Mariyappa Bhat defined Baalsantu as "Rustic dance by common folk during nights in the month of February" in his *Tulu English Dictionary*. It is a community dance where different components of the society are represented and the main organizers were Marathi Naiks. It was quite common in Coorg, Sullia, Puttur, Bantwal and Kasaragod Taluk in the olden days. But it is now performed mainly in two places, namely, Vittal region of Bantwal Taluk and Bakilapadavu village in Kasaragod Taluk. Dr. Sundar Naik holds that "The Baal-Santu dance is performed in honour of the goddess Sri Sharadamba of Sringeri during the cropping season of paddy. The performance of this ritual aims at banishing the *Maari*, that is, the evil spirit that destroys the cultivation and brings ill health to people and animals." (Naik 2007:70)

Etymology and Folklore

The term Baalsantu has multiple significations as the name of a girl Bala, a small girl named Santha, the heroine of a folklore with the name Santha and a minor goddess called Santha who is given permission to meet the people on these days. Each version cherishes its own folklore.

The term "Balla" means child and 'santh' means the name of a girl. Baalsantu is the daughter of Baalamma. She had two brothers. When they were away, she was found missing. Either she was taken away by some ghosts or she might have fled away. These people - one

old man who is singing, two Sanyasins, one carpenter, one Koraga and one lady - are going in search of this missing girl from house to house.

Another folklore is also there in which Bala Santu was an orphan. She was completely desperate over her future life. But the Guruji of Sringeri brings her up. When she grows up, she is sent up the ghats to work on the estate. But she is enjoined to come to Sringeri every year for the festival of the 10th day of Mayi month in the Tulu calendar. Baalsantu who goes to the estate falls in love with a Konkani of Kote, lives with him. They were blessed with affluence. She forgets the injunction of Guruji. She gradually forgot all about the Guru who sent a Sanyasin to ensure her well-being as she failed to appear on the tenth day of Mayi. But she could not recollect her Guru's instruction. She cruelly employed the Sanyasin to work in her field. The Guru sends another Sanyasin but he also meets with the same fate. The Jagadguru sends a Koraga, Korpala and a Koravaniya -the man with monkey - for the same purpose but to no avail.

Finally Guru got angry and came over there by wearing all kinds of dress, to set right the inordinate pride of the girl. She recognizes him and touched his feet. She begged for pardon. Her punishment was to be deprived of her lucky existence and to be vanished into the underworld. She bitterly cried for her misdeed. Sanyasin had given her a boon that she would be remembered every year on this day. The festival is known as Baalsantu. They sing a song and dance to its tune; a free version of the same is given below with its refrain.

We, the children of Sringeri goddess (Sharadha)

Balu balu balasanthu - 2

Came down from hill to planes

Balu balu balasanthu

Ran down from mountain to sea

Balu balu balasanthu

Sringeri Gauder are we

Balu balu balasanthu

Masculine Sanyasins are we

Searching small girl

Shall we go along
 Balu balu balasanthu
 Rice and coconut we take
 Both small and big
 From house to house we go
 Balu balu balasanthu - 2
 We, the horses of Sringeri
 Shall we take coconut
 Leaf of plantain covers us
 Balu balu balasanthu
 We, children of Shivaji
 We, the folk of village
 Disciples of Sringeri Guru
 Balu balu balasanthu - 2

Another version is that Mother Goddess herself, fed up with Baalsantu's foolishness, appears in person and curses that she be invisible. But when the girl expresses sincere repentance the goddess relents and ordains that all those who utter Baalsantu's name and invite her to the full moon day festival in the month of Mayi will have the honour to dance before the goddess. Hence this is a dance festival in honour of Baalsantu in the month of May (Cfr. Alva 2001:8).

Detailed Description

It seems that it is one of the oldest celebrations of Marathis, because it is more tolerant and rustic compared to other major rituals like Gondolu. The list of participants is equally interesting, as it includes the Brahmin priest, the representative of animal - the shape of monkey/bear, the clown, one lady character - one is dressed like a lady - one-man orchestra, one tribal member - Koraga - and fortune-teller. The party also includes two or more persons covered with banana leaves, who may be the representatives of the Sanyasins. The list of participants varies from place to place, as in the modern days, it includes Muslims and modern disco dancers in some places.

They move in a procession from one house to another. They would use a few musical instruments like Gumate - small drum with one

side open, Tuddi - small drum, and a few special-type pipes used by the Koraga. Other people of different castes also participate in the procession, collecting either money or corns. It seems that the ritual began in the olden days when barter system was in progress. It might have been a harvest festival. When they reap the second crop - in the year they celebrated this ritual of rustic dance followed by the grand repast. The procession begins in the evening almost by seven. As we mentioned earlier, they would dress or rather wear masques. The procession goes up to 2 or 3 a.m. They would go to all the houses except those of Muslims. The one who puts on the dress of the tribal man has the major role; he stands at the centre and sings the song. He speaks and cracks jokes with the household and collects the donation from the house. They would collect rice, coconut or other corns; in the modern times they would collect cash also. As the day's procession comes to the end, they would keep the whole attire/masques on Kanjeera tree which is supposed to be the abode of all ghosts and nymphs. At times their attire includes birds' feathers, dress and hat made of areca spathe and so on. Each day they would use different decorative articles but all are kept on the same tree - Kanjeeram when the procession is over.

Finally, on the full-moon day, they would prepare toddy, rice - roddy, Bengal gram-tuar, fish-shark curry, crab and vegetable curry and these are shared on full-fledged plantain leaf. Each plantain leaf will have a small oil lamp made of coconut stem covered by cloth dipped in coconut oil. After lighting the lamp, they would begin the dance. They would pray for the eviction of demons and the prosperity of the village.

After serving these items on the plantain leaf, they would conduct a group dance which may be the prototype of subsequent dances. The folk dance called Gumate of Kudubis in connection with Holi festival has some similarity with this dance. The dance of the last day is conducted around a big fire, made of large quantity of firewood. It seems that this fire has some connections with the tribal dance in the forest and later with Holi festival and celebrations. The traditional lamp may be lit followed by prayer that all the evils of this village may be removed. Those who dance can have their food from the leaf while others, the villagers, take their share of food and toddy to their homes.

Variations

As the folk dance moved from place to place, it has adapted or co-opted many cultural borrowings and the presentation of it in a place

necessarily varies from that of others. This Asura/Bhootha form of worship slowly co-opted Brahminization and goddess became the chief deity along with temple priest to play the major role. It has also some sort of a connection with different forms of Holi celebrations, as it takes place in the month of February and March. As per the Tulu calendar, it is scheduled to be held from 10th of Mayi month to the next full-moon day of the same month.

A detailed narration of variations is given below: Baalsantu practised in the village Kepu in Karnataka under the leadership of Krishnappa Naik is taken as a case in point. "The members of the community", Dr. Ashok Alva quotes, "gather before the chief priest and decide, after discussion, the days of the commencement and conclusion of the dance. The duration is generally an odd number of days: 7, 9 or 11. On the appointed evening, they gather to choose an extensive ground like a field for the performance. As night approaches, the priest carries out the preliminaries for the dance. In the middle of the ground selected for the dance, they install a stone which symbolizes Lord Ishwara or Lord Bhairava." (Alva 2001:2).

A Swastika is further drawn in the name of Lord Ganapathy of Madhur, on both sides of the stone with rice or paddy. *Dhuup* or incensing is done as part of worship. As the dancers, dressed in the traditional costume, arrive and stand before the stone, the chief priest addresses the leaders of the village and invokes the blessings of the Holy Pontiff of Sringeri and Lord Ganapathy of Madhur for a successful conclusion of the dance ritual. He recites the Baalsantu song and makes a ritualistic rotation around the installed stone. The dancers repeat the refrain '*baal baakyoo Baalesaantu*' and take three rounds. The procession begins after having offered due worship at the local temple. It goes through the main houses of the village in the order of their social hierarchy.

The number in the troupe, as we mentioned earlier, varies; there are around 15 to 20 members in the group. The representative of the tribe, Koraga, smears his body with black soot; his dress is made up of black sheet and areca spathe. He often holds a flute in one hand and a stick in the other. The Korapolu, the female character, wears a worn-out black blouse, and plaited hair. Sometimes this couple have a son. While the Sanyasins are completely wrapped in dry plantain leaves,

Adiga carries a portable idol representing Sringeri Sharadamba and the priest in a white dhoti with sacred thread holds articles for the worship. Other characters are: a Bhuta and his assistant, a soothsayer playing on his small drum, a monkey-trickster and a city-dweller. In the modern procession, new characters are introduced like Muslims, wrapped in lungi, shirt with sleeves rolled up, fastened talisman, beard and other comical components. Hunters clad in woven leaves of tree, ultra-modern disco dancers and masked characters at times steal the show.

As the group reaches the courtyard of a house, the Koraga couple addresses the landlord in the traditional manner in their dialect. The landlord lights a lamp and opens the door for the group to dance. The leader of the group sings the song and goes around in a circular movement. The other characters dance and recite the refrain '*baal baalyo Baalesaantu*' at the end of each verse. When they have danced three rounds, they would line up on the side of the yard. Each character comes to the fore and presents a sequence of dance and dialogue, improvisation in accordance with the calibre of the character is quite common.

According to the sequence, Adiga carrying the idol of goddess Sharada presents a ritualistic dance with the portable idol of God. The idol is placed on a wooden seat and the priest offers worship. The next stage of dance is by the Bhuta impersonator and his assistance, the former presents the Bhuta ritual - dance, uproar and demonstration of miracle and the latter goes for a kind of benediction. This has some resemblance to a religious ritual but the following sequence is in the nature of a farce (Hangana in vernacular). The dialogue of the Koragu and Korapolu has a bawdy flavour with innuendos and spicy humour. The Sanyasins come to the fore, they strike at the flight of steps with their stick and announce, "Yes, cousin", Dr. Alva quotes, "the landlord is going to give us rich gifts, a mura of rice, a hundred coconuts, a hundred coins. He is looking for the gifts in every corner of the house. He is bringing them to us, he is on his way" (Alva 2001:4).

The sequence of dances would last for about half an hour and by the end of it, the landlord gives his gifts, according to his capacity. Accepting these gifts, the troupe moves to the next house in the village. On the way, they repeat Baalsantu song with accompanying fanfare.

Owing to paucity of time, they do not present the whole sequence before each house, a few items are presented and proceed to the next house.

The dance troupe, which has performed throughout the night, comes at daybreak near an Indian poison-nut (Kanjeeram) tree on the village border and breaks up for the day. All players go three rounds around the tree, cast off their costume on the tree. This is symbolic of driving away all forces of evil. It is at times followed by encircling of a coconut around each one's head and strikes it at the base of the tree. The sojourn of the dancers is resumed on the next night. Different houses are visited during the succeeding nights, but the ritual of breaking up is done under the same tree. As per the schedule, they try to cover all the four regions of the village: east, west, south and north. Sometimes they divide themselves into two small groups, so as to complete the village within the stipulated time frame.

Grand Repast

As we pass on to the conclusion, the folk dance passes on to greater heights of ritualistic rigidity. It is held according to both the local tradition and customs of the community which practises it, on the full-moon day of Mayi. The members of the Marathi community join together on the ground in the morning. Around 31 fireplaces are set up facing the east. The priest brings fire in a duly ritualistic manner, and all the fireplaces are kindled. Marathi men and women join together to prepare pancakes out of about one and half quintals of rice. These pancakes when cooked are piled up in a granary. Other men are engaged in the preparation of the curry of horse-gram and dried fish to be used as a side dish. It might go on throughout the day until the expected number is obtained.

As the night descends, the chief priest explains the real nature of the folk dance with the details of rites to be performed as part of the worship. The installed stone in the middle of the ground is decorated with Ganapathy swastika and a dozen more known as seven Swastikas in the name of the seven mythological sages. The offerings of pancakes along with horse gram, fish curry are placed by these swastikas. There are customary rules prescribing the number of these offerings. The number of offerings goes on increasing as per the number of days as each dancer performed in the dance. On the 10th day, for instance, 50

dancers require 500 offerings to be distributed among them at the end of the day's worship. The distribution is done based on the number of days each dancer took part.

Along with this ritual, at some distance a pit is made ready for the performance of sacrificial fire ritual. The chief priest lights the sacrificial fire according to the prescribed ritualistic procedure. As the fire burns brightly, the priest offers *Dhuup*/incense to the offerings placed before the stone. He lifts the stone installed on the first day and goes three times around the sacrificial pit and the offerings. He sings the Baalsantu song. The dance troupe follows suit. Finally they carry two offerings of pancakes placed before the fire to the village border along with the consecrated stone and place them both under the Indian poison nut tree. The stone serves as the symbol of Lord Ishwara or Bhairava. All the members of the dancing group go dancing in circular form around the tree and sing the song. Then they place the idol of goddess Sharada on a wooden seat and the impersonator of the priest offers worship. When all of them have witnessed the final rite of raising the lamp (*Mangalarathi*) before the deity, they take off their costume, place it on the tree and offer their obeisance. Each one holds a coconut in his hand and goes around the tree as the chief priest prays on behalf of all, "We are", cited by Dr. Alva, "children of ten mothers. But like the children of one and the same mother we have performed jointly this service for the Lord of the world and for the mother goddess. Let them forgive us our thousands of errors of omission, ward off any disaster for the country. Let all evil diseases be thrust down to the netherworld. Let any disease proceeding from the sky be thrown back to the sky. Let us all be protected." (Alva 2001:6 & 7).

With the above prayer, each one strikes the coconut on the consecrated stone and sprinkles the sacred water on the stone. The broken halves of the coconut are received as *prasadam*. The sacred water is sprinkled on each one's head. The stone is shaken a bit by the priest lest it should settle there forever. Before returning home, they get the offerings made to the deities in proportion to the number of days of service performed by each one and at times according to their social status. When the public also has received the *prasadam*, the ritual comes to an end. There is a similar ritual called *Purusere Puuje* which is performed jointly by members of all communities in Karkala and Belthangadi taluks. Here instead of the Baalsantu, Dimisaale song is recited.

Analysis

Apparently the ritual has the objective of getting protection for the village against the attacks of evils like epidemics. The components of the ritual, Koraga, Korapolu, the Indian poison-nut tree are traditionally the means for warding off evil forces. The traditional pattern followed in the ancient Tulunadu is almost retained in this ritual through which the safety of the village against epidemics is ensured.

It seems that the folk dance is a vestige of the tribal fertility ritual where different original elements like fire, tree and stone are worshipped. The original notion of ecological balance in which components of nature, like plants, animals and human beings remain at harmony, is imitated. Today the objective is more general; it invokes the blessing of the deity for the welfare and development of all forms of life; the troupe includes representatives of all castes in the society. Another interesting point is that it also involves the concept of redistribution of wealth; the wealth of the few is shared with others through the final public repast. The so-called month of Mayi is the time of the second harvest; the accumulated excess harvest is shared by all.

In the modern context, the group of people who go for the procession varies from place to place. It includes people of all castes and creeds. They would take a picture of goddess Sringeri Sharada. Even Christians and Muslims participate in it. Thus in the present context, it has taken a secular colour. The changes both from the tribal ritual to ritualised phase in the time of Brahminization and the subsequent growth from mystic to secular, need greater and deeper consideration as they pose questions of identity changes, cultural resistance and dialectal evolution.

When we analyse this modern ritual dance as a form of discourse, as a case of 'dialectical relationship', especially the mutually constituting relationship of discourses and social systems, one can identify a three-fold evolution of the dance. By examining the historical and political construction of the dance and its function, one can trace the earliest form of tribal dance as the first form of harvest festival. As it came under the influence of co-option from Brahminic norms of fasting, prayer, Pooja and Sringeri Sharada, the second phase became prominent and modern secular form retrieved the cultural space "where contesting voices may articulate dissent protest and conflicting

aspirations (Muthukumaraswamy & Kaushal 2004:186) may take place. In short, Baalsantu Kumari Marathi's folk dance remains to be a fertile discourse giving room for further discursive reading.

The reasons for the development of these phases may not be identified with scientific accuracy. At the same time, the observation of P. Bilimale that "A new form of cultural expression does not emerge and become popular, unless there is a strong cultural and social and even political urge for such an expressive form" (Muthukumaraswamy & Kaushal 2004:175), also demands our attention. The onward movement of culture takes place due to a number of reasons including hegemony and co-options. The original tribal identity came under the onslaught of caste system and Brahminical power structure. They had to opt for some of these norms to be accepted as pure and original culture. The influence of revivalism even caught the aboriginal culture and modified them under co-option. The third secular phase may be identified as a return from sacred to secular or a deliberate turn to be secular as part of cultural resistance. In all these evolutions, a re-centering through de-centering the former is surprisingly visible.

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A HANDBOOK OF KERALA (Vol. 1)

T. Madhava Menon (Ed.), 2000, HB, Demy 1/4, pp. xii + 373,
Rs. 1,000/- (US\$ 125/-)

Among the I.S.D.L. series of *handbooks* of various States in India, the two-volume set on Kerala by T. Madhava Menon (IAS Retd.) has been published. The first volume covers the physiography, geography and physical features of the State, its forests, fauna and flora, history, religion and economy. The prehistorical foundations of Kerala have been detailed by Professor Rajendran. Because of the facilities available in the I.S.D.L., the section on history is based on a more intensive interpretation of Tamil sources. In the section on religion, folk belief-systems of the sociology of religious changes and the rituals of Hindu forms of worship have been described. The section contains articles on Buddhism, Jainism, Judaism, Christianity and Islam. There are articles on temple architecture, with illustrations. The section on economy contains contributions from some of the most eminent authors on this subject. The *Kerala Model*, out-migration, demographic transition and stagnation have also been analyzed.

A HANDBOOK OF KERALA (Vol. 2)

T. Madhava Menon (Ed.), 2002, HB, Demy 1/4, pp. xi + 497 + xxxiv,
Rs. 1,500/- (US\$ 140/-)

The detailed and very attractive second volume covers arts, language and literature, places of interest and communities. The descriptions are based on field notes and other observations. No other volume on the progressive state has complete information on several areas which users in any field will find quite useful. One will be proud to own the copy.

Review

ECOLOGY, TECHNOLOGY AND ECONOMY - CONTINUITY & CHANGE AMONG THE FISHERFOLK OF KERALA. Mathur, P.R.G. 2008. Rawat Publications, Jaipur, for Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal. Pp. xxviii + 449. Rs. 950/-.

Reviewed by

T. MADHAVA MENON

This is much more than a revised edition of the author's path-breaking 1978 treatise, *The Mappila Fisherfolk of Kerala* (Kerala Historical Society, Trivandrum). This early work was a study of one sector of the fisherfolk of Kerala, viz., Mappila Muslims of erstwhile Malabar area. This book incorporates and updates much of the old work, but also includes data on Hindu and Christian fisherfolk. It covers a larger compass, including the manner in which human communities have coped with ecological imperatives of their environment, the technologies and folk knowledge they have amassed, and the economic conditions in which they live. This work has been sponsored by the Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal. In the author's words,

"The fisherfolk of Kerala follow a life pattern, which is moulded by their marine environment. Their cultural ecology and economic organisation can also be seen to be the direct result of their marine environment. The repercussion of the marine environment on fishing communities is one of the most outstanding instances of the intricate relationship that exists between man and ecology. The fisherfolk's indigenous knowledge of the ecology is their main asset, providing the

means for their livelihood, and aid in times of dangers at sea. Since the fisherfolk get their livelihood from the sea, they believe in several superstitions, which have resulted from their utter dependence on the ecosystem. Superstitions are the means to overcome their fear and cover the uncertainties in their lives. Therefore it may be said the fisherfolk of Kerala are steeped in supernatural beliefs and practices." (p 2)

Not the least important feature, especially for Linguists, is the "Glossary of Technical Terms" with which the book opens. It furnishes the native terms for several species of fish of great commercial importance, e.g. *āvōli* (pomfret), *ayikkōra* (seers), *nethal* (white bait), etc. Terms for parts of fishing boats (e.g. *aniyam* = prow or boat's head, *kallī* = compartment in plank built fibre boats), currents (e.g. *kara n̄r* = easterly current), (*muṛiyam poṭṭi* = *iḍa kaḍal tiramāla*, i.e., waves that normally break out to three men's height in part of the sea between three to eight fathoms deep, that break closer to the shore, unexpectedly), etc. The Glossary occupies eight pages (xvii to xxiv) of closely typed items.

The Introduction discusses problems of methodology. Due to limit of resources, he had to adopt a selection procedure of the communities he had to study. Quantitative fishing information was used to select half a dozen communities, after selecting a few regions in which they were represented. He adopted a "macro-micro" approach, by which he did a general study of the selected area, and then proceeded to take a few cases for a micro-scale study. He had to combine both diachronic and synchronic data, basing very largely on the participant observer methodology. He cites a large mass of literature justifying his approach. This should be very useful to future students of the subject.

The first chapter, on "Fisherfolk's Indigenous knowledge of the Marine Environment", is deeply insightful. Generally, the operations are confined to shallow waters of the coastal belt, about ten or so kilometres from the beach. The continental shelf is relatively narrow. This geography is all important - the "benthic area (on or near the continental shelf), and the pelagic, including the rest, determine the type of fish and the methods of fishing. The author shows how aware fisherfolk are, irrespective of religious community, of these features,

and how they have distinctive terms for varying conditions. They divide the region into eight divisions, each designated by the substantive term *kadal* = sea; e.g. *karakadal*, *idakkadal*, *padikkadal*, *vayyakadal* and *puramkadal*.

They have extensive knowledge of the distribution, feeding and breeding habits of the fish they catch, and have observed the importance of phytoplankton and zooplankton, and co-relation between their appearance and that of the fish. Importantly, they have distinctive terms for different varieties of plankton. Differently from the two fold terminological distinction, pelagic (living at or near the surface) and demersal (living at or near the bottom), of the scientists, the folk adopt a three-fold division, viz., *tālepedunna* (the bottom-occurring), *idan̄r* (mid-water) and *polappu* (shoaling in the surface) *m̄n* = fish. The author describes some important commercial species - he has furnished both native as well as commercial terms used for each - the breeding characteristics and the strategies required to capture them. The author describes how the folk have been using this knowledge to adjust the depth from which they fish, and how they have adapted the latest technological gadgets to suit their knowledge base.

He describes folk perception of waves, tides and winds, so vital to their survival and well-being. This is characterised by scientific observation as well as superstitious faith. They perceive a great deal more of variety in winds than most scientists do - their lives depend on it! They distinguish between waves (*tira*) and currents (*n̄r*) and observe different permutations and combinations among them and wind, correlating them with safety and productivity of fishing expeditions in each condition. They have noted that the presence of fluorescent plankton (*tuyi*) during certain seasons foretells and helps or hinders in the capture of fishes like skates and rays (*tirandi*). But the recent introduction of rayon nets that are not visible in the light of the *tuyi* has convinced them that they can capture the fish irrespective of the *tuyi* season.

They are conscious of lunar and tidal influences on the catch and change the type of nets they use according to the phases of the moon. The author cites Zachariah 1996:

"The fisherfolk are very knowledgeable about the topography of the sea. They are fully aware about the niches rich

in marine life, spots that are dangerous due to strong currents, rocky reefs, unstable and changing sea-bed, (etc.) Their knowledge has been acquired ... from older and more experienced fishermen and through their own experiences. ... They are aware (of areas rich in sea life) but the risks and costs ... are not worth the efforts. In earlier times they used to create water turbulence and noise in such areas after setting their nets in order to scare fish out of the rock crevices and push them in the direction of the nets. But this method is resorted to less now. The reasons given for this were vague, but the general one was that the noise of the outboard motor engines ... frequently scared away fish even before nets could be set. The older generation especially had keen perceptions about the nature and signs of the sea. They were able to tell from the shore the presence of fish shoal almost the depth of five to six meters even at a distance of half to one kilometre....." (p 73-74).

The author proceeds to the socio-cultural heritage of Hindu fisherfolk. Among the marine folk, he describes Nullayan, Arayan, Mukkuva, Bovis-Mogeyar and Mogavirar communities. Valan is a fishing community who use the backwaters; and Mokeyan/Mogeyan fish in both backwaters and the sea. There are also communities who combine fishing with other occupations. The author describes the service communities who serve each segment of Hindu fisherfolk. The description has the deftness of touch of the veteran Anthropologist that the author is, and is organized into: origin of caste name, descent and inheritance, political organization, relationship with other communities, and religious beliefs. He discusses inter-se ranking among them, and how they have "intruded" into the fold of Scheduled Communities "in order to get benefits earmarked for them. Some infiltrations are of recent origin but the process has been going on for nearly 51 years" (p 123). Such "infiltrations" cross even the religion-barrier; "A number of Latin Christians have managed to become Hindu Paravar and Bharathar by getting false certificates, it is believed" (p 124). Some Arayans in Alapuzha district have certificates showing them as Mala Arayan, a Scheduled Tribe.

A substantial portion, nearly a quarter, of the book is taken up by important researches on Technology of Fishing. Much of this is new material, published for the first time. The various types of equipment,

such as nets, craft, mechanization and the comparative economics of combinations of them have been presented. He has described how a group of Latin Christian fisherfolk from Tamil Nadu have introduced hook-and-line fishing for catching *kanava* (cat fish). Some of the most readable material in the book is the descriptions of selected fishing villages like Kadappuram (Trichur district), Kappad (Calicut district), Mappila Bay (Kannur district), Kasargod, Tumpoli (Alapuzha district), etc. Describing Kalamokku Private Fishing Harbour (Ernakulam district), the author shows how Latin Christian fisherfolk adopted modern technology as far back as 1961, and are far ahead of Mukkuvas. He also discusses the impact of the Indo-Norwegian Project of the 1952-1965 era.

"A critical consequence of (the project) was the encouragement of a new pattern of prawn industry. ...In general, it improved the fish landing above the sustainable level. In general it improved the standard of the life of the fisherfolk of Sakthikulangara. But it also created wide disparities among those involved in the prawn business. Some made huge profits, amassed assets.... This became possible only at the cost of vast majority ... who depended solidly on sea for their livelihood. The wealth created by INP did not become a social asset beneficial to the whole community, and it merely resulted in the accumulation of wealth by a few beings in a particular area" (cited from Murikkan 1991) (p 197-198).

In the view of this reviewer, this is a rather harsh summation. The Project did introduce lasting innovations in technology, as well as in the organizations created. True, most of the benefits were monopolized by a few influential persons who were already affluent and powerful, including some politicians. But over-all, catches increased many fold; a new industry of fish processing was established, and Kerala gained an unshakeable hold on the export markets.

The Chapter goes on to discuss technological and ecological issues surrounding introduction of trawling and the Kerala Marine Fishing Regulation Act of 1980 imposing certain restrictions during the season when fishes breed. "The profit oriented powerful industrialists... consider conservation issue merely a favour to the traditional sector. ... The powerful capitalist owners of mechanised boats, freezing plants

and exporting companies have substantially influenced the state policy during various stages" (p 201). The author claims that his study has revealed that the "fishing communities have been unable to adapt the new technologies uniformly on account of variations in ecological conditions, cultural ecology and traditional belief systems" (p 207). He identifies over-fishing, invasion of non-fishermen entrepreneurs who have acquired mechanised boats, and unsuitable technologies like purse seining as some of the causes. The State Government's policy for subsidizing out-board engine-fitted craft has helped the poorer fisherfolk. In a brief chapter, he shows how modern technological advances have been utilized by the folk in various ways.

The next Chapter, "Economic Organisation and Change", is the toughest. He covers issues such as ownership of assets and distribution of benefits, organization of labour and the influence of traditional patron-client relationship, capital formation and the role of credit, and the ramifications of the trade. He has described the implications of the recent migratory tendencies, especially by fishermen of Tamil Nadu into the Kerala waters. He summarises his views:

"The work experience ... is not directly explainable in the terms we have inherited from Marxism, as a transition to capitalism or an irresistible movement forward in history. Nor do the complications introduced into the model in the 1970s ... adequately escape the underlying teleology of this narrative form. ...(The) exposure of the Mappila, Latin Christians and Bovis-Mogeyar to global economic relations ... has only encouraged an exaggerations of 'old' forms of work, which now are given a fundamentally new significance. The division of labour between the sexes among ...(them)... follows a similar logic of exaggeration and reinterpretation, as the female half of the potential labour force remains behind in fishing villages during the annual exodus of men". (p 289)

The author's discussion does show that a stereotyped rehash of Marxist dialectics is not sufficient to fully explain the resultant socio-economic conditions that have emerged. The influences of the old value systems, compounded by religious perceptions and traditional loyalties, persist even under the impact of global and local economic and technical changes. Surprisingly, even where these old systems have

lost relevance to objective realities, the non-materialistic forces still continue though in different magnitude and towards different dimensions. The stickiness of these non-material influences is surprising when we consider the political changes that the author has described among these populations.

There is a Chapter that describes the belief systems, rituals and observances, which amply illustrates the author's expertise, both as an Anthropologist as well as a humanist. Remarkably, irrespective of religion, the belief in the supernatural pervades the mind of fisherfolk, beset as they are by uncertainties far beyond their ken. Strangely of interest is that Mappila fisherfolk of Tanur "do not lag behind their Hindu cousins in cobra-worship" (p329) and even the worship is conducted by a Nambudiri (Brahmin) priest. Sorcery, magic and offerings to the churches and mosques are all part of the effort to cope with these uncertainties. The belief in *manthravadam* (sorcery and black-magic) has been integrated into the Muslim religious systems too. But the Hindu fisherfolk have a more diversified and colourful mythology, incorporating the belief in the rebirth of the soul, and impact of the "Great Tradition".

The impact of the differences in religious belief does not adequately explain the noticed difference in the progress achieved by the fishing communities. Generally, studies indicate that the Latin Catholics have benefited most by the quickness with which they have adapted to the changed circumstances, the Muslim fisherfolk come next and the Hindu fishing communities have lagged far behind. This simplistic picture is belied by the author's observation that Bovis-Mogeyar are an exception and have successfully adopted modern technologies. They are also among the most "devout" Hindus with their own temples, to which the successful folk donate liberally. They also formed a *Sabha* of their own which undertook selective support of the poorer members, so that all participated in the economic improvement. This concluding chapter is distinguished by the learned discussion of the views of various scholars into the socio-economic and cultural aspects of innovation and change among various categories of communities with different traditions of power and vassalage.

This reviewer does not claim to be a defender of Marxist philosophies. But all such criticisms in the world literature "against

Marx" tend to forget a fundamental point - Marx said that human societies are determined, ultimately, though not exclusively or even largely, by economic (material) circumstances. The data thrown up by our learned author shows that this is true. It is very clear that in the ultimate, foundational analysis, economic and material changes do impinge and gradually transform the culture; but the pace at which they do so, and the extent to which these forces predominate over non-material forces, depends on a variety of other values and cultural circumstances. Where the "overlay" of such non-material factors is relatively thin, as in the case of the Latin Christians, the material circumstances force the pace faster; in the case of the Hindu fisherfolk, where the layer is very thick, the change takes much longer to work up to the surface.

The book is further embellished with a series of appendices, including a photo gallery, and exhaustive Bibliography and an adequate index. Very handsomely bound, neatly printed and with few mistakes, it is an invaluable addition to our knowledge of an important set of communities in Kerala and their lifestyles.

THE THEORIES OF TELUGU GRAMMAR

Bodduppalli Purushottam, 1996, HB, pp. 410,

Rs. 500/- (US\$ 50/-)

This is a monograph of immense use to students of Dravidian linguistics in general and Telugu language in particular. The author has surveyed various theories of grammar from the early times to the present day. The work is a comprehensive account of the grammar of ancient and modern Telugu. This book has a subject index which may be of help to the student as a ready reckoner. Neatly printed and beautifully bound, the volume will be a prized possession to lovers of grammar and linguistics.

Review

RESEARCH TRENDS IN LEXICOGRAPHY, SANSKRIT AND LINGUISTICS: PROCEEDINGS OF THE PROFESSOR S.M. KATRE BIRTH CENTENARY SEMINAR. K.S. Nagaraja, V.P. Bhatta, Sonal Kulkarni-Joshi & P.M. Pingle (Eds.). 2007. Deccan College Post-Graduate Institute, Pune. Pp. 238. Rs. 500/-.

Reviewed by

B. GOPINATHAN NAIR

The birth centenary of Prof. S.M. Katre, the architect of Deccan College, Pune and the founder of modern linguistic studies in India was celebrated in a befitting manner by the faculty members of the Department of Linguistics and the Sanskrit dictionary Project of the Institute by conducting a two-day national seminar in January 2006 on *Research Trends in Lexicography, Sanskrit and Linguistics* - the subjects in which Katre himself had done substantial contributions.

The present volume, the outcome of this seminar incorporates in the first section M.A. Mehandale's keynote address wherein he highlights Katre's pivotal role in developing Deccan College to its present status as an internationally reputed academic institution from its infancy, firstly by establishing an independent Sanskrit Dictionary Department around 1948 with the intention to extract vocabulary from various Sanskrit texts of different historical periods. He shouldered the responsibility of this Project as its General Editor and amassed large heap of data that formed the basis of the monumental Deccan College Sanskrit dictionary. Another major role played by Katre in the field of linguistics is the organization of Summer, Winter and Autumn Schools in Deccan College and other academic centres to impart training in

linguistics to Indian scholars. Besides he took initiative to send scholars to the United States for achieving further advanced knowledge in the field, started M.A., Ph.D. programmes in linguistics while acting as Director of the Institute and thus established and popularised linguistic studies in India in the late 1950's.

In his brief but crisp remarks as Chairperson, Ashok R. Kelkar has made glowing tributes to Katre's outstanding personality, scholarship, vision and unique style of functioning in developing Deccan College to its present glory and to find a prominent place for modern linguistic studies in the academic map of India.

Following this, Section II contains twelve papers on lexicography and Sanskrit and Section III nine papers on linguistics, all presented by leading scholars in their respective fields of specialization. Satyavrat Shastry in *Sanskrit Vocabulary of South East Asia* provides a sample survey of the presence of Sanskrit words in the lexicon of the languages of South East Asia. For instance, languages like Lao and Thai have borrowed many Sanskrit words pertaining to the fields of education, economics, politics besides technical terminology as such without change as well as with varying degrees of phonological change and in some instances leading to semantic shift, thus delineating the process and effect of Sanskrit borrowing on these languages pointing out the scope for a socio-cultural study.

M.G. Dhandphale discusses the principles adopted in Ancient Indian lexicography where a dictionary is generally meant a dictionary of synonyms with an appendix of homonyms especially with reference to the preparation of ancient Sanskrit dictionaries in contrast to the lemmata presented in alphabetical order in modern dictionaries. He points out that two sets of canons slightly overlapping are given in Sanskrit commentaries on the Nighantus and the Niruktas and in the Pali grammar of Aggavaṃsa. His proposal is to have a specimen version of a dictionary based on these principles.

Nalini Sadhale mentions the significant roles of synonym, homonym and taxonym in Sanskrit literature and in the field of agriculture and allied sciences with illustrations of the synonyms for the word 'rice' viz. *dhāna*, *dhānya*, *bīja* denoting food grains in general, barley and implicitly to rice in contrast to the words like *śālī*, *vṝhi*,

tandula etc. which commonly denote 'rice' but not found used in *Rgveda*. S.M. Ayachit has made some observations in the making of Sanskrit dictionaries especially with reference to semantic aspects, lack of attestation found in several entries based on medieval lexicons etc. and the need to prepare separate dictionaries of technical terms in various sciences.

V.P. Bhatta extensively deals with the salient points of the Encyclopaedic dictionary of Sanskrit on historical principles stressing the need for recording information about grammatical status for each word, listing of all meanings chronologically and logically besides current and obsolete meanings. P.M. Pingle and S.D. Joshi have dealt with the history of the process of data collection of this monumental Sanskrit dictionary of Deccan College; a major contribution of Katre in the field of Indian lexicography.

Madhav M. Deshpande comments Katre's contribution to Sanskrit grammar viz. Pāṇinīyan studies, dictionary of Pāṇini in three parts and complete translation and indexing of *Aṣṭadhyāyī* on the basis of several reviews including his own review that have appeared in various journals. R.N. Aralikatti in his reminiscence has offered a glorious tribute to his guide and preceptor Prof. Katre on his personality, scholarship, academic excellence and achievements.

H.S. Ananthanarayana has vividly portrayed the introduction and spread of modern linguistics in India and assessed the contribution of Prof. Katre and the Deccan College in this regard. Devi Shankar Dwivedi traces the popularisation of linguistics in India and the role played by S.M. Katre in organizing Summer, Winter, Autumn Schools of Linguistics. Pramod Pandey attempts to present a survey of phonological studies by Indian linguists for the last four decades with reference to the main areas viz. linguistic description, theoretical proposals, Historical and comparative linguistics, language typology, Indian grammatical tradition, applied linguistics etc.

In his detailed paper *From Diversity to Unity*, K. Rangan provides a critique of the development of linguistic theories from Bloomfield to Chomsky and beyond delineating the major paradigm shift that emerged in linguistic theory. B. Ramakrishna Reddy gives an exposition of Tribal linguistics in India with focus on central and

southern regions especially on the unclassified languages. Besides he contemplates on the notion of tribal communities, tribal bilingualism, endangerment and maintenance of tribal languages and heritage. Based on bilingualism and language convergence he suggests that Central India could be considered a sub-linguistic area where diffusion of linguistic traits has taken place among language varieties belonging to three genetic stocks viz. Aryan, Dravidian and Austro-Asiatic. The paper concludes by suggesting remedial measures for future development of tribal languages.

P.S. Subrahmanyam gives a broad outline of the progress witnessed in the study of Dravidian linguistics from the 1960's, with reference to the descriptive study of individual languages of the Dravidian family and that of historical comparative aspects in reconstructing Proto-Dravidian and tracing out the disintegration of individual languages. Panchanan Mohanty in his paper on *Directions in Translation Studies* focuses on the point that comprehensive translation theory besides being descriptive must take into consideration literal vs. free translation. K.S. Tiwari provides a description of the numeral system in Kabui, a language of Tibeto-Burman family spoken by a tribal group, Kabui-Naga in Manipur which employs decimal system contrary to vigesimal system found in some of the Tibeto-Burman languages like the Naga group.

Prof. Katre's teaching, research and writing covered a vast area. His major contributions are in the fields of Indo-Aryan, Pāṇinīyan studies, Konkani, Marathi and Sanskrit lexicography. He has published over a dozen books and numerous research articles, reviews etc. spread in different journals and periodicals. The Seminar Proceedings has clearly brought out an overview of the academic achievements of Katre and his role in shaping up the Deccan College and its various academic activities.

The organizers of this seminar, Paddayya and his colleagues, all the contributors and Editors, Nagaraja, Bhatta et al deserve the appreciation of the academic community for bringing out this volume in honour of the birth centenary of S.M. Katre, one of the illustrious scholars of the first generation of Indian linguists who laid the firm foundation for the proper study and advancement of linguistics as an autonomous discipline in the Indian academic scenario.

**INDEX TO THE INTERNATIONAL JOURNAL OF
DRAVIDIAN LINGUISTICS**

Vol.33 No.1 (2004) to Vol.37 No.2 (2008)

BINDU R.B.

I.S.D.L.

Thiruvananthapuram

- | | |
|-----------------|--|
| Acharya | Original Dravidian Homeland of the Brahuis,
Acharya, Sujit Kumar, Kolkata, Vol.37 No.2
June 2008 p.33-56 |
| Ananthanarayana | Interface Between Historical Linguistics and
Sociolinguistics, Ananthanarayana.H.S., Ban-
galore, Vol.37 No.2 June 2008 p.201- 207 |
| Ananthanarayana | Sanskrit and Dravidian - A Case of Prosodical
Convergence, Ananthanarayana.H.S., Mysore,
Volume 35 No.1 January 2006 p.227-234 |
| Ananthanarayana | Emeneau's Contribution to Indic Studies,
Ananthanarayana.H.S., Mysore, Vol.34 No.2
June 2005 p.1-18 |
| Ananthanarayana | Siksaas as Source Book on Indian Phonetics,
Ananthanarayana.H.S., Mysore, Vol.36 No.1
January 2007 p.79-86 |
| Ananthanarayana | Obituary of Winfred P.Lehman (1916-2007),
Ananthanarayana.H.S., Vol.37 No.1 January
2008 p.237-238 |
| Ananthanarayana | Prakrits, Ananthanarayana.H.S, Mysore,
Vol.34 No.1 January 2005 p.1-16 |

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January 2006 p.111-126

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